

**Policy Impact in Criminal Justice: Intended and Unintended Consequences**

**BY**

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## **Introduction**

Political scientist Harold Lasswell was influential in establishing early parameters for studying public policy (1951). He believed that policy study should be multidisciplinary, practical rather than semantic, problem oriented, and adaptable to the normative nature of policymaking. The study of criminal justice policy is similar to research in any other policy sector in that it follows Lasswell's formula. Criminal justice policy is multidisciplinary. It draws directly from the fields of applied criminal justice, criminology, economics, criminal law, political science, and sociology. Researching criminal justice policy has a practical importance. If anything, excepting recent forays into formal modeling, criminal justice policy is lean on theoretical justification and more strongly focused on empirical evidence. Decisions made within this policy area address some of the most pressing and important issues faced by citizens, including violent crime, discrimination, and murder. Lastly, criminal justice policy is pervasively informed by normative judgments, as it drips with value laden political posturing.

Despite the existence, and indeed even requirement, of commonalities with studies in other policy areas, this dissertation also possesses differential characteristics reflective of its topical area of study. In fact, every policy issue area has its own flavor, and in the case of complex issue areas such as this one, many different flavors. The death penalty, prison construction, and policing are each occupants of distinct policy sub domains. Each of these is populated, at least below the level of governing elites, by a different set of actors. However, some basic observations about criminal justice policy hold true across these different actors and institutions. First, the policy is dictated by elected officials get tough on crime rhetoric. It is also subject to the unpredictability of deviant human behavior, actions which often quite effectively undercut the most well thought out of plans. And finally, third, the fractured nature of America's

federalist system complicates crime policy. In the realm of justice issues the dual nature of the country's court system can add another layer of challenges to policymakers at any level of government.

The three chapters of this dissertation examine the implementation and impacts of policy in criminal justice, including the efficacy of the juvenile death penalty (JDP), the influence of bureaucratic representation on citizens in police traffic stops, and the economic impact of private prison construction. Although each chapter addresses a narrow slice of criminal justice policy, they share common themes. First, people respond uniquely to broadly applied criminal justice policies. Second, place matters. The differences between an urban and rural area, as well as one state versus another are real and have significant implications for residents. Third, unintended consequences are part of the criminal justice policy process, making this a complicated policy area. And finally, better policies will present themselves through continual and well designed policy evaluation and analysis. Putting the question of research cost aside, continual policy evaluation and analysis provides information to leaders that will better allow them to make legitimate explanations and predictions regarding a policy area.

The first chapter's conclusions could certainly serve to inform policymakers regarding the implementation, or even complete abolition, of capital punishment. This chapter not only provides specific conclusions about the inefficacy of the recently overturned JDP, but it also models how the punishment could be analyzed in its totality. Opponents of the penalty often scrutinize it by examining its application to certain subgroups. For example, those opposed to the policy worked to overturn its application to the mentally ill (*Atkins v. Virginia*, 1991), then juveniles (*Roper v. Simmons* 2005), and have often focused on racial disparities in its use (Eisenberg, Garvey, and Wells 2001; *Furman v. Georgia* 1972; Kleck 1981; Radelet and Pierce

1991; Songer and Unah 2006). Because a debate has emerged that centers on policy impact on population subgroups, it becomes germane to conduct data analysis sufficiently targeted at those subgroups. Though aggregate violent crime trends will always remain relevant to the capital punishment debate, crime deterrence studies become more valuable when connected with public conversation on the topic. Quite evidently that debate has taken a turn toward the punishment's effect on certain groups of people.

The body of writing on the death penalty is vast, but comparatively little has been written on the JDP in particular. This is an important topic to examine. The now five year old decision that ended the practice of executing those under age 18 (*Roper v. Simmons*), has provided scholars with a chance to analyze a slice of the death penalty from beginning to end. The first chapter uses data on all types of juvenile crime that occurred in the 50 states during the time period that the JDP was in effect: 1974-2005. The year immediately following its cessation, 2006, is also included in the data analysis. This unique data is broken down by gender, age, type of crime, and crime location, among other factors. The chapter directly addresses the question: was there a deterrent effect to the JDP? The results suggest that juvenile executions did not lower crime over the studied time period. So I conclude that there is little evidence that the JDP was an effective crime deterrent.

While enjoining the ongoing death penalty debate is valuable, this chapter is made more compelling given the attention paid to the controversial Supreme Court decision overturning the JDP. Justice Kennedy was highly criticized for including arguments reliant on international law in the authorship of his majority decision. Also, the evolution of the American juvenile justice system is briefly addressed in the chapter, as it has evolved from a unique system of state care to

existing as another cog in a carceral system grounded in the “get tough on crime” political rhetoric of the 1980s and 1990s.

The second chapter, which deals with bureaucratic representation, likewise possesses a rich context for its research question: racial interactions in police traffic stops. As with the death penalty the interactions between police officers and citizens is the subject of much controversy and analysis. These interactions are highly common and heavily scrutinized, but almost never observed by non-participants. Consequently, studying a survey sample aimed at these interactions is an important way to gain insight into a daily occurrence in the fabric of American democracy.

Bureaucratic representation is the idea that non-elected officials can address the interests of citizens just as effectively as elected officials are capable of doing. It has been studied both in terms of its active component and its passive component. The passive component, symbolic representation, is the concept that citizens are affected in different ways cognitively by a bureaucratic actor who resembles them rather than one who does not. Bureaucrats such as police officers are different than elected government officials in that they tend to have more interaction with citizens and have characteristics similar to the general population. In the past, the chief difficulty in addressing the question of their possible symbolic effect has been a reliance on aggregate level data that loses the individual response information. This chapter uses as its data source supplemental surveys to the National Crime Victimization Survey (NCVS) called the Police Public Contact Surveys (PPCS). These surveys are valuable because they contain the individual level data necessary to assess the impact of symbolic representation on citizens. Through analysis of individual level data, a difference was found in how African-Americans and



white citizens react to police officers. While the study's results are mixed, the research did find some evidence supporting the presence of symbolic representation in citizen-police interactions.

Finally, the third chapter demonstrates that not all outcomes of criminal justice policies deal directly with crime prevention. While prisons are at their root as much about crime as the electric chair and discretionary police traffic stops, this chapter deals instead with the economic impact of prisons. More specifically, it addresses the economic impact of private prisons as compared with a sample of their public counterparts.

State and local governments have turned toward private companies to provide services that were previously carried out by the public bureaucracy. Justifying this change, officials have cited the need to save public money. Some local officials go so far as to argue in favor of construction of private prisons within their jurisdictions on the grounds that their local economies will benefit. The current effort will test that idea with a large and heterogeneous dataset. This last chapter analyzes the economic impact private prisons have had upon the counties in which they are located. First, this study will present a population census of all private prisons in the United States, regardless of the level of government with which they are serving. It will also compare the economic experience of all counties with private prisons to samples of counties with new public prisons or no prison growth at all.

The study shows that personal income rises with the construction of a new public prison, but not a new private prison. This income rise is a short lived effect. Similarly, this study has discovered a short term dip in unemployment associated with new prisons, perhaps attributable to temporary construction jobs. But the results show that even medium term county level unemployment rates cannot be accurately correlated with the installation of a new prison facility.

This chaptered research work carries through four common themes, all while addressing different aspects of the same policy area. As Lasswell intended when describing policy study almost 60 years ago (Lasswell 1951), this work draws from different disciplines, recognizes the normative nature of the topic, has practical application, and is problem oriented. The lens of public policy analysis has allowed me to demonstrate with this dissertation that within criminal justice policy people will respond uniquely to broadly conceived policies, place matters in policy impact, and that unintended consequences will occur. However, through policy analysis such as this, better policies can be continually redesigned and implemented.

## **Chapter 1**

### **The Deterrent Effect of the Juvenile Death Penalty**

#### **I. Introduction**

The death penalty, like a number of other controversial public policies, often provokes strong feelings among citizens. Some of the most controversial death sentences and state executions have been those of juveniles. Like the public debate surrounding policies such as abortion, gay rights, and gun control, the dialogue regarding the death penalty often does not center on facts as much as first principles. In this political debate theories are replaced by belief systems and empiricism oftentimes with faith. In that vein, relevant facts are available that speak directly to the efficacy of capital punishment as a public policy tool. Most obviously, rates of violent crime and the number of death sentences and executions speak to the policy's effectiveness. In this particular instance, the available data can be counted on as a reasonable measure of the world as it actually is.

The death penalty has been justified with a variety of rationales. While the penalty is most often framed in the public square by what scholars have called the fairness perspective (Baumgartner, De Boef, and Boydston 2008), the justification most often used by proponents is the idea of criminal deterrence (Forst 1976). Proponents of the death penalty argue that it deters criminal homicide, while opponents argue one of two things. Opponents respond by denying the surety and force of this deterrent effect (Baldus and Cole 1975; Bowers and Pierce 1975; Choe 2009; DPIC 2010; Forst 1976; Grogger 1990; Passell 2008; Radelet and Akers 1996; Sellin 1961; Sorenson et al. 1999) or counter argue that it actually raises homicide levels in society

(Bailey 1990; Cochran, Chamlin, and Seth 1994; Decker and Kohfeld 1984; King 1978).

Enjoining the death penalty debate from a perspective other than deterrence is possible.

However, such dialogues exist more in the realm of moral ethicists than public policy scholars.

Still, an acknowledgment regarding the public volume of death penalty morality arguments, often religiously based ones, must be made. To an even greater degree than with the execution of adults, the state sponsored execution of criminally guilty juveniles has provoked arguments rooted in moral indignation. Perhaps this is because juveniles have a history of being treated differently in our nation's criminal justice system. Despite this tradition, juveniles were subject to publicly decreed executions very similarly to adults in many states from 1977 to 2005.

Whatever the justification for the punishment might have been at the time, the question for objective crime analysis is simple: "Did JDP deter juvenile violent crime, and in particular murder?" The analysis uses data from all 50 states. This data ranges from 1974, which was three years before the "modern death penalty era" began, to 2006, which is one year after the Supreme Court ruled juvenile exactions unconstitutional.<sup>1</sup> The study uses a multiple regression analysis to assess what effect, if any, the juvenile death penalty has had on serious juvenile crime. A robust hierarchical time series design tests for the presence of a deterrent effect, or for that matter an exacerbating effect<sup>2</sup>, on both juvenile violent crime and juvenile murder rates. The inclusion of data from all 50 states plus the regression model employed allow for the control of the unique yet unknown effects each state has on its juvenile crime rate. Most significantly, because policies allowing for the execution of juveniles have been overturned by the Supreme Court, the complete modern impact of these policies can now be fully assessed.

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<sup>1</sup> 2006 is also the most recent year of complete data available at this time.

<sup>2</sup> As argued in the reply brief for petitioners in *North Carolina v. Fowler* (419 U.S. 963 1974)

The order of this chapter is as follows: Section I provides a brief overview of capital punishment in the United States, including its various justifications. Section II focuses on the more narrowly cast domain of the juvenile death penalty, addressing in turn so-called death penalty exception cases and the unique nature of the American juvenile justice system. Section III reviews the extensive scholarly literature accompanying the controversy over any deterrence effect realized by the punishment.

After this review of the literature, Section IV turns to alternative theories concerning possible determinants of juvenile crime and presentation of the hypotheses being tested. Subsequently, the model is presented and explained in Section V. The chapter concludes in Section VI with a discussion of the results and a call for further research based upon this work.

## **II. Capital Punishment in the United States**

The policy evolution of state-sanctioned executions began when the first colonists arrived on American shores, and it has continued from the punishment's colonial beginnings to the present day (Decker and Kohfeld 1984; Dezhbakhsh, Rankin 1979; Masur 1989; Rantoul [1836], 1974; Rubin and Shepherd 2003; Yunker 1976). The pilgrims ferried to the new world not only a sense of civic pride and a strong set of religious beliefs (Lipset 2003) but also a healthy support for the harsh English legal policy of capital punishment (Bedau 1972; Laurence [1932], 1971). To understand the death penalty now, one must understand why the policy was initially codified in the new nation. The colonists wrote the death penalty into law because it served four important functions in early American society: deterrence, incapacitation, retribution, and

penance (Banner 2002).<sup>3</sup> First, and the focal point of this study, it was used to deter crime, which means to stop further illegal action by an individual guilty person. In the seventeenth and eighteenth centuries, the punishment was carried out with the intent to stop hundreds of far flung malfeasances such as bestiality, concealing property to defraud creditors, embezzling tobacco, poaching deer, receiving a stolen horse, sodomy, squatting on Indian land, and stealing hogs, not to mention arson, rape, and murder (Banner 2002, 4-8).

Second, and even more basically than deterrence, is incapacitation. The death penalty's most clear characteristic is that it inhibits further criminal acts from an individual through killing that person. Clearly an individual locked up is no more capable of committing violent crime *at that moment* than a dead person. But without an adequate supply of holding cells, early law enforcement authorities seeking incapacitation were faced with a choice of either expelling a perpetrator from a local community or killing them. Eventually, the establishment of the American prison system provided society the option of forcing confinement upon offenders rather than ending their life.

Third, adhering to societal demands as well as biblical and historical tradition, execution was used to punish an individual in return for committing a crime: retribution.<sup>4</sup> Finally, it was used to allow an individual to achieve atonement in the eyes of God: the idea of penance. In an early example of policy diffusion, states changed their criminal codes to limit the death penalty to an increasingly smaller range of crimes. Some of the earliest innovators, that is to say death penalty limiting states, were Maine, Massachusetts, and Pennsylvania.

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<sup>3</sup> However absurd or personally deplorable, it is also sometimes said to serve a eugenic purpose (Sellin 1961; Yunker 1975).

<sup>4</sup> Retribution can also be referred to with the more ideologically loaded terms "revenge" or "vengeance." Some scholars do however draw a distinction between these ideas and retribution, stating that revenge is an act of anger while retribution is rational deserving punishment (Pojman 2004, 57). Others have even made a distinction with the softer victim's rights "pop psychology" concepts of "closure" or "moving on" (Zimring 2003, 59). For present purposes, they can all be seen as capturing the same idea (e.g. Berns 1979), which is the idea of paying back an individual malefactor for a crime committed.

## **The Public Nature of the Death Penalty**

Throughout world history, capital punishment contained a highly public element. Traditionally it has not been a public event in the way of an open town meeting. Rather it has possessed the characteristics of a spectacle that is more parade than public hearing. Ancient methods of execution reflected the spectacular nature of the organized death event, which served to point out greater society's disapproval of the condemned. Some of the more notorious ways of publicly disposing of the unwanted included crucifixion, forced ingestion of molten lead, throwing into a quagmire, beheading with axe or guillotine, burning alive, drawing and quartering with horses, and stoning (Laurence 1932). Modes of execution and attitudes towards them might provide more penetrating insight into the nature of past societies than other more mundane public policies.<sup>5</sup> Curiously though, since 1936 all American executions have been done in an enclosure that prohibits viewing by the general public (Delfino and Day 2008, 20)<sup>6</sup>. The movement to privacy slowly began in the early 1800s in a reflection of middle-class disgust at a public death (Masur 1989) and southern states' indignation at northern states' accusations of barbarism (Banner 2002, 155).

The trend toward hiding publicly sanctioned death is more than a footnote to history. Furthermore, the most curious aspect about the move from decreed death in the public square to concealed death in the prison is not the predictable evolution of changing norms of vulgarity and barbarism. The very rationale for the punishment was now being undermined by its newly preferred locale: in the prison yard out of the public's disapproving eye. It appears illogical to implement a punishment that was developed for a deterrent effect channeled through violent

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<sup>5</sup> For a modern example of the lucidity of such a study, consider that African Americans back the penalty less than whites, and that conservatives back it more than liberals (Ekland-Olson 1988; Nice 1992).

<sup>6</sup> Public executions had already been abolished in Great Britain, source of most American law, in 1868 (9 Geo. IV, c.31).

public death that has been effectively sanitized through both hiding it, and making it “quick and painless” for the condemned.

In two ways, moving the punishment indoors diminishes deterrent effects. First, a possible deterrent power is significantly diminished when the practice is hidden from the public’s view. A common sense argument posits that the maximum deterrent value of the punishment would be realized if decreed deaths were now broadcast widely on public television or webcast on the internet.<sup>7</sup> If only a select few are witnessing the punishment, as is now the case in the United States, then any information regarding its severity can only be second hand. Second, the notion of “the community” doing the punishing has now been transferred to the “penal state” or “bureaucracy” doing the punishing, creating an intermediary step in expression of public disapproval (Banner 2002). Beyond gut reactions of revulsion, the logical reasoning behind the closeting of the death penalty was first articulated in the early 1800s by phrenologist<sup>8</sup> George Combe, who brought up the notion of an “excitement of the mind” regarding those who were predisposed to violence. In other words, this was the first articulation of the “barbarizing effect” later brought up by modern death penalty scholars (e.g. Cloninger 1992; Cochran, Chamlin, and Seth 1994). Ironically, the very argument that death penalty advocates most disdain, that it *raises* crime levels, is directly responsible for its lower public profile.

Public opinion for the death penalty eroded in the middle 1950s (Gallup 2008), though some observers have marked the time of public decline as late as 1967-1968 (Delfino and Day

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<sup>7</sup> Public transmittal of executions is not without its legal entanglements. Just a sampling: *KQED v. Vasquez* (1992) found that California’s first execution since 1967 did not warrant a camera there. *Lawson v. Dixon* (1994) found that Phil Donahue could not film a death row inmate even at the inmate’s request. The most insightful case in this realm is *Entertainment Network v. Lappin* (2001) which held that broadcasting Oklahoma City bomber Timothy McVeigh’s death to an auditorium of victim’s families was constitutional, but that showing it more broadly was not. The present legal issue is not the risk of the presence of cameras and accompanying camera operators (such as a camera operator becoming distraught and breaking the glass viewing partition), but who the execution’s audience is that “endangers the solemnity of the event.”

<sup>8</sup> Phrenology was the study of the discourse of the mind.



2008). Scholars have argued that a component of Supreme Court decision-making is the Court's responsiveness to public opinion (Barnum 1985, Fleming and Wood 1997; Marshall 1989; Stimson, Mackuen, and Erikson 1995). Whether it was due to eroding public support or other reasons, the Supreme Court halted the death penalty in 1972 (*Furman v. Georgia*).<sup>9</sup> The high court determined that *as it was being practiced*, the punishment was unconstitutional.<sup>10</sup> However, the Court left room for Congress and individual state legislatures to enact new death penalty laws, a process which began in short order.<sup>11</sup> Soon afterward, the "modern era" of the death penalty in the United States began with the 1976 Supreme Court case of *Gregg v. Georgia*, which held that the concerns raised in *Furman* were adequately addressed by the new statutes in several respondent states.<sup>12</sup>

Now state law varies regarding the penalty, but in general terms, some states have the penalty while others do not. Since 1977, 1,188 people have been put to death in the United States.<sup>13</sup> The executions have been concentrated highly in southern states. In fact, five states have executed approximately 66% of the condemned (Florida, Missouri, Oklahoma, Texas, and Virginia). To illustrate, in 1997 Texas executed 37 individuals, a number equal to the sum total of executions in all other states (DPIC). The legal landscape of the death penalty is more settled than it was pre-*Furman*. Several relatively well established legal concepts regarding offender

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<sup>9</sup> See particularly the noted phrase of Justice Potter Stewart in his concurring opinion: "These death sentences are cruel and unusual in the same way that being struck by lightning is cruel and unusual. For, of all the people convicted of rapes and murders in 1967 and 1968, many just as reprehensible as these, the petitioners are among a capriciously selected random handful upon whom the sentence of death has in fact been imposed. My concurring Brothers have demonstrated that, if any basis can be discerned for the selection of these few to be sentenced to die, it is the constitutionally impermissible basis of race."

<sup>10</sup> The majority opinion did not take up issue with the punishment *per se*, as it did directly with the state statutes guiding its capricious usage.

<sup>11</sup> Florida completed rewriting its statute a mere five months after *Furman* (Death Penalty Information Center 2008).

<sup>12</sup> *Gregg v. Georgia* (1976, 428 U.S. 153), *Proffitt v. Florida* (1976, 428 U.S. 242), and *Jurek v. Texas* (1976, 428 U.S. 262) are the three instances of state law being upheld known in shorthand as the *Gregg* decision." The two death penalty statutes struck down by *Gregg* were those of North Carolina and Louisiana.

<sup>13</sup> As of January 4, 2010 (DPIC).

eligibility and sentencing guidelines regulate the practice. Legal advocacy on either side of the issue, pro or con, is generally subdivided within the framework of these six areas:

1. Many crimes *are not* punishable by death, including rape and murder in and of itself (*Coker v. Georgia* 1977; *Godfrey v. Georgia* 1980).<sup>14</sup>
2. The trial and sentencing phases of a death penalty must be separated from one another (*Gregg v. Georgia* 1976; addressing: *Profitt v. Florida* 1976; *Jurek v. Texas* 1976; *Woodson v. North Carolina* 1976; and *Roberts v. Louisiana* 1976).
3. Mitigating and aggravating circumstances decrease or increase the chance of a death sentence (*Spaziano v. Florida* 1984; *Ring v. Arizona* 2002).
4. There is an automatic appellate review of both the trial and sentencing phases in the event of a guilty verdict (*Gregg v. Georgia* 1976).
5. The specific method of convict death must meet basic standards, such as not unnecessarily inflicting gratuitous pain (e.g. in Kentucky *Baze v. Rees*; in Nebraska *State v. Mata* 2008).
6. Some characteristic of the offender prevents the person from being sentenced to death (*Atkins v. Virginia* 2002; *Ford v. Wainwright* 1986; *Roper v. Simmons* 2005).

This last point concerns the so-called “death penalty exception cases.” It is this substantive point of contention that contains the JDP debate.

## **II. Death Penalty Exception Cases and the Juvenile Death Penalty**

Though there were a staggering 14,713 reported executions worldwide between 2000 and 2006, only 36 of those reported as executed were juveniles. The countries that reported executing juveniles during that period were China, Democratic Republic of Congo, Iran, Pakistan, Saudi Arabia, Sudan, and the United States of America (Amnesty International 2007). Clearly, in a capital punishment-laden world, there is now something approaching consensus on

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<sup>14</sup> Many crimes, however, *are* indeed punishable by death. Even non-homicide related crimes such as multiple rapes (Montana Criminal Code Annotated 45-5-503) and attempting to overthrow the government (18 U.S.C. 2381) might be punishable by death. For a complete list of non-homicide offenses, see Delfino and Day 2008, p. 4. Examples of homicides that are death penalty eligible by statute include, most commonly, first-degree murder (e.g. 18 U.S.C. 1111), murder of a state correctional officer (e.g. 18 U.S.C. 1121), murder for hire (e.g. 18 U.S.C. 1958), and murder of a federal judge (e.g. 18 U.S.C. 1114).

the idea of excluding juveniles from execution. Justice Kennedy's decision noting international consensus was accurate (*Roper v. Simmons* 2005).

Legislation the world over has also specifically barred other population groups from capital punishment. For example, different nations have ruled out the execution of the aged and pregnant women.<sup>15</sup> Though the United States has no federal statutes which directly and plainly prohibit the execution of either pregnant women or the aged, this country does not presently extend the penalty to three subpopulations: the mentally retarded,<sup>16</sup> the mentally incapacitated, and juveniles.

Americans have approved of state-sanctioned execution of minors since the earliest days of the country (Bogdanski 2004, 613; Streib 1998, 1-2). Though it is agreed upon that the first minor put to death by the state was Thomas Graunger in 1642 (Amnesty Index; Bogdanski 2004, 613; Streib 2000; Streib 2003a; Streib 2003b), since that time it is not known exactly how many people who committed crimes as juveniles have been executed as there is no reliable count on information available before 1930 (Banner 2002, 313). However, the number is believed to be around 365 (Bogdanski 2004, 614; Streib 2000, 2). Following the early adoption of English common law, the legal evolution of the juvenile death penalty does not pick up again until 1988, when the Supreme Court took on the case of *Thompson v. Oklahoma*.<sup>17</sup> The Court decided that neither of the two modern goals of the death penalty, deterrence or retribution, were being met by executing minors so young. Those 15-years of age and younger, Justice Stevens wrote in the decision, fell under the fiduciary obligation of the state to protect children, thus rendering

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<sup>15</sup> For example, Taiwan will not execute anyone over the age of 80, and Vietnam commutes death penalties to life imprisonment in the case of pregnant women and mothers of small children (Hood and Hoyle 2008, 194-195).

<sup>16</sup> The phraseology here is that of the US legal system, not the author's (*Atkins v. Virginia* 1991).

<sup>17</sup> Though presented with two chances, the Supreme Court avoided ruling on the constitutionality of the juvenile death penalty in both 1978 with *Bell v. Ohio* (438 U.S. 637) and again in 1982 with *Eddings v. Oklahoma* (436 U.S. 921).

retribution inapplicable, and likewise, those so young did not make decisions in a calculated way as adults are thought to do, thus negating the deterrence effect (*Thompson v. Oklahoma* 1988). However, just one year after the seminal *Thompson* decision, in the case of *Stanford v. Kentucky* (1989), the court explicitly rejected the idea of excluding 16 and 17-year old perpetrators from a capital sentence.

Thirteen years later, in June 2002, the Supreme Court again expanded the groups of people immune from capital punishment. The high court declared that the imposition of death sentences on “mentally retarded” offenders stands in violation of the Eighth Amendment’s ban on cruel and unusual punishment (*Atkins v. Virginia* 2002). Legal experts saw in the logic of *Atkins* the seeds of overturning *Stanford v. Kentucky*, via the potential extension of the same arguments applied to mentally retarded offenders to juveniles (Fagan 2003; Feld 2003; Streib 2003a; Bogdanski 2004; Marshall 2004).

The Supreme Court’s series of changes regarding the death penalty had not escaped the notice of advocates on both sides of this issue. One long running tactic of the modern anti-death penalty lobby has been to create litigation surrounding death penalty exception cases. Death penalty advocates, in turn, took up the charge of defending the penalty as applied to unique subpopulations. Death penalty exception cases only gain legal traction as part of an abolitionist legal strategy if the group of the population in question is held to be markedly different from the greater population. After that point is proven, the subpopulation could potentially be judged to possess less culpability in the commission of a violent act. In the present case of juveniles, both national and sub-national levels of government had long treated them exceptionally in other public policy areas, for example military service, voting, tobacco use, the attainment of commercial operating licenses, marriage legality, night time curfews, punishment for non-violent

crime, possession of pornography, workplace pay and safety, truancy laws, and alcohol consumption.

Even more distinctly, the United States has had a tradition of channeling minors who commit crime into a criminal justice system entirely separate from adult criminals (*In re Gault* 1967). Juvenile justice experts contend that there are unique sociological and biological reasons why minors commit crimes, and systems have been designed and put into place to cope with such transgressions (Murphy 1974; Gewerth and Dorne 1991; Guerra et al. 2008). Armed with the concept of *Parens Patriae*,<sup>18</sup> the nation's juvenile justice system sprung up in the early 1800s as a way to handle poor youth in the cities (Ferdinand 1991; Whitehead and Lab 2004, 33). A resurgence in the ideas of rehabilitation and treatment in the 1960s and 1970s (e.g., Juvenile Justice and Delinquency Prevention Act of 1974) has been followed by a more recent return to punitive action directed at teenage wrongdoers (Ferdinand 1991; Krisberg *et al.* 1986; NACJJD 1984; Whitehead and Lab 2004, 29-47). Society will demand punishments for minors who perpetrate crimes that reasonably fit the present policy mood of society. Traditionally, though, the urge to punish youth has been balanced with a legal system that recognizes the duty to answer the needs of society's troubled young (Corriero 2006).

From the fields of cognition and neuroscience, psychiatrists and other mental health experts engaged in modern brain-based research have found that adolescents have an immature mental process which causes their decision-making to differ from adults (ABA 2008; Harvard 2001; Headley 2003; Moran 2003, Sowell 1999). Perhaps it was the combination of evidence from society wide policymaking, juvenile justice, and modern brain scanning technology that

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<sup>18</sup> *Parens Patriae*, the legal concept of the state intervening as parent, has been formally driving American criminal justice policy regarding youths since 1839 (*Ex parte Crouse*).

prompted the justices to hear a juvenile death penalty case again—or perhaps it was something else entirely.

As discussed above, the United States is one of a handful of countries that executed minors in recent history. In a nod to international law, Justice Kennedy adopted the standards of the international legal community to overturn the execution of juveniles (Geneva Conventions 1978, Protocol II Art 6, Part 4; United Nations 2002, Resolution 77). Kennedy wrote in his the *Roper v. Simmons* decision, "It is proper that we acknowledge the overwhelming weight of international opinion against the juvenile death penalty, resting in large part on the understanding that the instability and emotional imbalance of young people may often be a factor in the crime (*Roper v. Simmons*. 2005)." After a uniquely American multi-century history of states executing juvenile offenders, it was ultimately an argument based on international consensus that justified its cessation (Truskett 2004).

### **III. Deterrence Theory and the Death Penalty**

The idea of juvenile capital punishment flowed out of the same theoretical headwaters from which the idea of executing adults still originates: criminal deterrence theory. Eighteenth century Italian penal philosopher Cesare Beccaria is credited with the first modern call for criminal deterrence when he wrote, "It is better to prevent crimes than to punish them (Beccaria [1764] 1963, 93)." <sup>19</sup> In the same classic work of criminal justice, *On Crimes and Punishments*, he also established himself as the first modern death penalty abolitionist when he wrote, "The death penalty becomes for the majority a spectacle and for some others an object of compassion mixed with disdain; these two sentiments rather than the salutary fear which the laws pretend to

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<sup>19</sup> "Modern" as in the sense of post medieval European thought. Plato and Socrates both dealt with deterrence long before (see Sellin 1980, 4-5).

inspire occupy the spirits of the spectators.” Beccaria trumpeted the benefits of society developing policies of deterrence rather than policies of punishment, while simultaneously noting the inadequacy of the death penalty as either. He believed that the “violent passions that surprise men” would not be swayed by the short duration of previous offenders’ executions (Beccaria [1764] 1963, 46-47).

In terms of intellectual lineage, Jeremy Bentham came after Beccaria with his notion of “felicific calculus”. The founding utilitarian philosopher couched the argument surrounding punishments in the terms of rational decision making: the weighing out of “pleasure versus pain (Bentham [1789] 1961)”. The idea of crime deterrence was a major theme to utilitarian political and philosophical thought (e.g. Bentham [1791] 1995).<sup>20</sup> From these early ideas regarding the cost of consequences to offenders, deterrence theory was developed into an operationalizable theory about punishing people within a formalized legal system. Deterrence as an idea coupled with the power of an approving public fueled the rise of both the American penal and judicial institutional establishments. Though Beccaria and Bentham wrestled with the deterrence power of the death penalty during the earliest days of modern penology, there was surprisingly little scholarly discussion on the topic until Thorsten Sellin upset the apple cart in 1959.<sup>21</sup> Just as was the case regarding its legal status, its general popular acceptance served to mitigate and deflect much serious academic scrutiny on its efficacy as a public policy.

Sellin believed that there was no differential deterrent effect to capital punishment over and above life in prison. Bluntly, Sellin took a soft view to the issue. He was a death penalty

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<sup>20</sup> Bentham gleefully dove into the topic of the details of prison design, including then modern touches such as a tube based communications systems and efficient chapel construction (Abramsky 2007; Bentham 1791).

<sup>21</sup> This was neither because there was no capital punishment nor because there was no discussion on it at all. It was because the debate over executions was couched more in ethics than in its utility. Some scholars have suggested that this is because of a lack of data and computational ability (Klein, Forst, and Filatov 1978). Sellin’s 1959 study was called *The Death Penalty*.

abolitionist and a sociology professor who thought in terms of root causes of crime and the environments in which crime occurred (Sellin 1959, 1961, 1967, 1980). By today's standards his empirical analysis is wanting, but he strove to adjust for state level variance as well as control for other factors that would cause a change in the rate of violent crime and homicides. If one were constructing a brief overview of capital punishment deterrence literature, the next major event would be the emergence of the work of Isaac Ehrlich. Ehrlich responded to Sellin's approach with a measured disdain. Trained as an economist, he used more advanced empirical methods to take Sellin to task for his findings (Ehrlich 1975a, 1975b, 1976, 1977a, 1977b, 1977c, 1981).<sup>22</sup> Ehrlich's work was presented in the seminal case of *Gregg v. Georgia* (1976), which was mentioned earlier as the triggering event for the modern death penalty era. Ehrlich's scholarship therefore received a level of attention not customary for social science. Much of that attention could be the specificity that Ehrlich gave in his deterrence answer: each 1% rise in the rate of execution will cause a .06% decline in murders, and so on. Put even more basically, Sellin stated eight lives will be saved per execution. The public visibility created by the *Gregg* decision encouraged a "swarm of social scientists to the attempt to measure deterrence (Banner 2002, 280)".<sup>23</sup>

Despite the good press, it was not Ehrlich who initially discovered the underlying thinking of this work: it was Gary S. Becker. Becker was a Nobel-Prize winning economist who penned the classic punishment as deterrence scholarly work (Becker 1968). He joined the long-standing theories on preventative punishment (e.g. Beccaria [1764] 1963, Bentham [1789] 1961 ) with the quantitative techniques and language of current econometrics. With the robust

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<sup>22</sup> His methods to analyze deterrence in general, not specific to the death penalty, were further discussed in Ehrlich, 1987.

<sup>23</sup> Though Ehrlich's first modeling efforts using simultaneous equations were not invented by Ehrlich anymore than deterrence theory was. His estimation procedure was developed in 1970 by an econometrician (Fair).



analytical tools of econometrics, the debate over capital punishment no longer had to be in the vague language of a remote worth or value. After Becker and Ehrlich, the idea of pleasure versus pain (or the more updated version: cost benefit analysis) regarding the efficacy of capital punishment could be tested with precision.

As Becker did before him, Ehrlich wrote in the language of an economist: there is a *supply* of offenses, a *demand* for enforcement, and the *production* of means of deterrence. The starting point regarding human nature is that an individual's "obedience to law is not taken for granted" (Becker 1968). In contrast, Sellin had started his research from an optimistic view of human nature, stating repeatedly that human beings do not just avoid committing acts of violence because of possible penalties passed on in a courtroom. Rather, Sellin proposed, people don't kill or perpetrate acts of violence on others because of some, albeit possibly incoherent, internally developed moral codes. Again to contrast, deterrence theory holds that the probability of an individual committing a crime is a function of the relative benefits of criminal activity minus the costs (e.g. Ehrlich 1975). Here Sellin would bring up environmental concerns such as local unemployment and a low level of personal income as mediating factors.

The utility calculus of criminal action is more complicated than it might appear at first blush. However, it is outside the scope of this study to cast judgment on the rational choice framework widely used in analyzing crime deterrence.<sup>24</sup> The study does, however, apply the framework to the specific case of serious juvenile violent crime reduction due to the application of the death penalty. Before moving on to theory application, some shortcomings of the theory as applied to juveniles in particular should be fairly brought out into the open. Ehrlich wrote "the propensity to perpetrate such crimes (murder and other crimes against person) is influenced

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<sup>24</sup> This topic is not without a serious discussion within criminal justice policy. For example, see not just Becker [1995] 2008, but also de Haan and Vos 2003.

by the prospective gains and losses associated with their commission (Ehrlich 1975, 398-399)". Juvenile violent offenders, as noted before, might possess conduct disorders that cause them to act irrationally (Myers and Scott, 1998). Murders perpetrated in such a mental state have a heightened degree of criminal impulsiveness attributed to them. The rational choice framework attempts to account for impulsive murderers by stating they have a very high discount rate, which means the perpetrator places a low value on the future relative to the present time. The challenge for rational choice theory here is two-fold. Does this idea of discount rate adequately express the decision-making of a mentally agitated juvenile delinquent?<sup>25</sup> If so, how can the concept be operationalized?

Beyond the basic issue of impulsive decision making in juvenile delinquents, there is the issue of the limited cognitive processing of youths. Do minors have the ability to perform a cost benefit analysis regarding a subsequent criminal act *at all*, never mind at a discounted rate of future value? The perceived individual costs to criminal action are a function of the probability of getting caught considered simultaneously with the celerity (swiftness of application), certainty, and the severity (duration) of punishment. Consequently, the hypotheses that the presence of the juvenile death penalty reduced the murder rate beyond lifelong incarceration, rests on the questionable assumptions that juvenile offenders were aware of the death penalty statute in their state, and further, were aware that they could be prosecuted under it *at their age*. And, frankly, that they assigned a cost to it greater than a life sentence.<sup>26</sup>

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<sup>25</sup> The assumption that never waivers within the rational choice perspective is that juvenile criminal action is indeed *rational*. Some adult violent crime too has an element of impulsive decision making. For instance, a street robbery can be committed by an adult criminal acting impulsively, expressively, with moral ambiguity, or even shamefully; therefore, this presents problems to a strict rational choice framework (Haan and Vos, 2003). That question, however is one that is best confronted head on by a study that does not focus on a unique subpopulation group.

<sup>26</sup> Many condemned and imprisoned have requested their own demise (see *Windsor v. Kentucky* 2008).

Though executions are not open to the public as they once were, shame could play a role. Put more directly, the guilty could assign a cost to the shame felt by their loved ones because of their execution. The level of reasoning required of juvenile offenders for the juvenile death penalty to have lowered the rate of murders committed during the commission of another violent crime is even more difficult to imagine.<sup>27</sup> In these instances, the conditional probability of being punished for murder would have to be understood by the young perpetrator prior to the commencement of, for example, the armed robbery of a convenience store. It would have to be understood by the juvenile criminal that a murder *has the potential* to occur during such a crime because of the uncertainty associated with this violent and unpredictable act. If an offender had no murderous intent when he or she began the lesser offense, such a level of certainty regarding conditional probabilities in the face of environmental or exogenous uncertainty is hard to conceive.

Finally, and from a quite different perspective, any deterrence power of the punishment rests in its ability to *uniquely* eliminate the possibility of violent juvenile recidivism. Put another way, does the existence or application of the juvenile death penalty stop juvenile perpetrated violent crime and murder the way a lifelong prison sentence without the possibility of parole cannot? There are murderers in prison, but only in the event of an escape would inmates endanger a population other than fellow inmates and prison employees (usually guards). Even given that small pool of possible victims, there is far from an epidemic of murders committed in prison by juveniles. The cost of an execution and its inevitable appeals does not make it a state

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<sup>27</sup> This is especially pertinent because a typical capital offense is a murder committed during the commission of another crime. The calculation would require that the juvenile offender assess the additional penalty for murdering a victim rather than just non-lethally assaulting them.

money saver.<sup>28</sup> At the risk of being overly blunt, killing someone before the end of their natural lifespan is not a cost saver that some might imagine it to be.

### **A Literature Review of Deterrence Theory and the Death Penalty**

Becker and Ehrlich on the effectiveness side and Sellin on the abolitionist side set the table for most of the research that followed on deterrence and capital punishment. And although no published study before this one has tackled the deterrence effect of just the *juvenile* death penalty,<sup>29</sup> many have looked at the death penalty generally. With a wide assortment of research methods, analysts have made various statements about the punishment's effectiveness as a crime deterrent. Most who have taken the time to investigate the complex idea of criminal deterrence and the death penalty believe that it is indeed "knowable" phenomenon. However, there are criminologists who claim that social science may not be able to answer the deterrence question (Tittle 1985).<sup>30</sup>

A pair of 1975 Yale Law Journal pieces confronted Ehrlich from two very different directions. Bowers and Pierce (1975) point out that the data used during Ehrlich's time frame of 1933 to 1967 is compiled from error filled FBI files. Just as with the data in this study, Ehrlich made use of the Uniform Crime Reporting System, but Bowers and Pierce note that the data from its early years are far from valid representative measurements of crime. The authors move past this initial inadequacy, though, and replicate his study using Ehrlich's own modeling technique. Most troublesome was that they discovered Ehrlich alternatively added and removed years from either end of his study, which substantively alters the alleged deterrent effect (Bowers

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<sup>28</sup> A recent Maryland study found that each execution cost the state (Roman et al. 2008) \$37 million. Similar studies found that put the cost of executions millions of dollars above the cost of housing an inmate for life (Cook 1993; Drehle 1988).

<sup>29</sup> The detailed work of Streib (1998, 2000, 2003a, 2003b) dealt thoroughly with its legality however.

<sup>30</sup> Among a number of issues, Tittle (1985) points to confounding lags arising between crimes and punishments as well as data quality problems and bias among researchers.

and Pierce 1975, 197). Another methodological problem is the transformation of Ehrlich's variables into their logarithmic form (Ehrlich 1975, 406). By using a multiplier in his linear regression, he accentuates the effect from an increase in the lower range of the dependent variable. For example, a change in the number of executions from three to four would be more potent than a change from 200 to 300 (per 1000). Thus, in Ehrlich's study, the declining rate of executions in the 1960s that coincided with a lower crime rate is more heavily weighted than in other time periods. Put another way, in his study's design one year (a year in the 1960s) weighs more heavily than another year (a year in the 1940s).<sup>31</sup> And those years happen to be the ones with an overstated execution risk "effecting" a lower crime rate. The second critique of the log form is that when the number being transformed is undefined, as in executions = 0, then the number is made up. The solution taken is to insert a value three standard deviations below the mean, but this requires quite a leap of faith.

Baldus and Cole (1975) take a more fundamental tact to critiquing Ehrlich. They praise Sellin's (1959) "more simple work" from an earlier era because it accounted for state level effects. Their critique would support later state level designs, as they attack Ehrlich's early work which used exclusively national level data (Baldus and Cole 1975, 170). They note that Ehrlich has more sophisticated statistical modeling, but the flaw to his work is more primal. They argue for the use of legal status of the penalty as a variable rather than its actual use, and to do that at a state level, as the present study does. Baldus and Cole were correct to focus on the existence of the penalty rather than on the details of its applications such as time between sentencing and execution, etc. The most likely fact to be known by criminals is whether or not the penalty exists, as opposed to length of stay on death row and convictions overturned on appeal, etc. The

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<sup>31</sup> As the risk of execution departs from the mean number of 75, the logarithmic transformation increases this substantial error. Such an error would strengthen Ehrlich's findings because the lowest levels of homicide happened at the same time as the lowest number of executions during his study.

legislative rationale for the penalty, deterrence, is more directly addressed by such a frontal engagement of the policy as well.<sup>32</sup>

Passell, contributing to a special edition of the Yale Law Journal in 1975, called Ehrlich's model into question. He brought up the point, now frequently made decades later, that in all likelihood we know very little about the deterrence of the penalty without considering many environmental variables. He then conducted a study using state level data that included a variable for the south (Passell 1975).

Yunker (1976) enjoined the debate soon after this initial wave of attention with a "cobweb" model of supply-demand interaction borrowed from agricultural economic literature (ibid 49). He presented not just formal equations of the relationship between the rate of executions and the rate of homicide, but also drawings of supply and demand curves. Yunker moved the deterrence literature forward because he questioned the simultaneous equations of Ehrlich and proposed the use of a lag effect. Yunker found a deterrent effect to the penalty stronger even than that noted by Ehrlich: one execution will deter 156 murders given a US population of 200 million people. However, Yunker's paper was later criticized for its oversimplistic statistical approach (Chressanthis 1989; Fox 1977) and limited time-span (1960-1972). As with Ehrlich's work, this particular time span is problematic because of Department of Justice data collecting techniques during that era.<sup>33</sup>

Forst also wrote on this topic in the 1970s, and he made several empirical points of his own. He called for statistical modeling that was not conducted just over time but also across

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<sup>32</sup> It should be noted that Ehrlich did respond to his critics (Ehrlich 1975b), and some of his comments were indeed accurate. He pointed out with relish that his critics did not understand simultaneous equation structures, the proper use of  $R^2$ , or selective sampling techniques.

<sup>33</sup> The UCR data collection program changed substantially in 1958, but continued to evolve through the time period of this work. For instance, data this early did not have the benefit of estimation procedures that were improved in the 1970s based on crime information from similar areas (Lynch and Addington 2007, 75-76).

geography, for example, the states (Forst 1976). Second, he took on the commonly held notion that the rise in 1960s homicide rates was directly attributable to the abolition of the death penalty by examining this state-by-state variation. His summation of Ehrlich's results strongly sums up the criticism of the literature that had found a deterrence effect to that point:

His evidence of deterrence depends upon a restrictive assumption about the mathematical relationship between homicides and executions, the inclusion of a particular set of observations, the use of a limited set of control variables, and a peculiar construction of the execution rate, the key variable. (Forst 1976, 744-745).

At this point, a disaggregation of crime data to the state level became the standard in the literature (e.g., Black and Orsagh 1978; Cloninger 1977; Cloninger 1992).<sup>34</sup> Scholarship within the broader field of state criminal justice policy would support this level of analysis (Smith 1997). Ehrlich himself published a cross-sectional time series study, abandoning his earlier modeling (Ehrlich 1977b) for a better specified design. Perhaps unsurprisingly, he still finds a deterrent effect. He also, perhaps unsurprisingly, employs a logarithmic transformation of the variables but this time justifies it more extensively through the work of Box and Cox (1964) on functional specification. Not all scholars committed to cross-state studies, however. Cloninger later used a 57 city sample (1991), and other scholars would look at just one state (Decker and Kohfeld 1984; Grogger 1990; Grogger 1991). These approaches are not comprehensive and have fewer observations but are not thought to be without validity.

At this point, the debate between a logarithmic, semilogarithmic, or natural specification of the economic prices in the equation was ripe within the literature (e.g., Layson 1985), sometimes with scholars even debating themselves on the transformation of variables (e.g. Black

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<sup>34</sup> As noted earlier, the work of Sellin (1959) employed state level data, but is heavily discounted because it is not a multivariate regression analysis. Perhaps his cross-tabulation approach was more robust however because at least his study was disaggregated.

and Orsagh, 1978, 629). It is the position of this study that there is no theoretical justification nor a justification in econometric literature for the use of a log-linear form over a standard linear form when considering this research question (for a similar conclusion see Klein, Forst, and Filatov 1978, 357). Disconcerting, though, is that the use of a logarithmic transformation has consistently yielded a higher deterrent effect to the punishment (Bowers and Pierce 1975; Brumm and Cloninger 1996; Klein, Forst, and Filatov 1978; Passell 1975; Passell and Taylor 1975).

The next major methodological debate surrounded the use of simultaneous systems of equations while modeling. Generally, it seems that those who knew and understood these systems used them (e.g. Chressanthis 1989; Fisher and Nagin 1978), though not without reservation. Their use was based on the idea that a simple single equation regression will generate a bias and inconsistent result when working with crime data because the relationship between variables was interdependent.<sup>35</sup> However, a simultaneous systems approach presents a major logical problem regarding the occurrence of events being studied and their causal relationship to one another. The problem is that a purely simultaneous equation will not allow for a recursive effect. While there is a subset of simultaneous equation models that can be employed, the decision to use such a recursive system must be made early in the model building. This decision can alternatively be viewed as an “either/or” decision with a simultaneous systems approach (Pindyck and Rubinfeld 1981) or as a decision made within it (Greene 2003, 715) depending upon the degree to which this decision is seen as departure from a more traditional,

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The above equations explain the appeal of a simultaneous system. The mutual interaction between  $x$  and  $y$  makes it impossible to assume that either equation is independent regarding the stochastic disturbances.



non-recursive, modeling technique. All of this discussion about recursive models does matter heavily in the present case because of the issue of lags.

Consider that perhaps, as has been proposed by criminal justice scholars, deterrence studies using simultaneous systems are merely capturing the strain put on law enforcement resources during a period of high crime (Hoenack and Weiler 1980, see also Ehrlich and Brower 1987). This supports the general supposition that crimes affect punishments and punishments affect crime, both at the same time *and* with a time lag. To address this complex phenomenon statistically, a simultaneous equations system either excludes exogenous variables from one equation while using them in another or develops them sequentially in the manner used by Chressanthis (1989). The omission of any variable could be committed with human error and thus invalidate estimated parameters, so the use of a recursive model has appeal.<sup>36</sup>

Of course, once the decision to use a simultaneous set of equations or a recursive set is made, it does not mean that model construction concerns are put aside. Variables must still always be supported by sound theory, and further refinements to the modeling might be necessitated, such as considering a structural model to account for the murder (supply) function (Hoenack and Weiler 1980; Cameron 1994).<sup>37</sup> Another dilemma is the degree that the data should be temporally disaggregated to address simultaneity. This is a particular problem with capital crime because it is a low frequency event compared to assaults. For a well-done study which, to address simultaneity problems, used a higher frequency crime in a cross-sectional study see Corman and Mocan (2000). Within the capital punishment literature, however, the most widely used data by far is annual, because FBI data is collected and packaged that way.

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<sup>36</sup> Because of the time lags present in issues of police response and public budgeting, the recursive system seems to make sense in this regard.

<sup>37</sup> Again, much of the difficulty with crime deterrence questions in general is the simultaneous nature of crime, preventative police response, and legal system punishments.

However, Grogger conducted a unique study using daily California crime data (1990). His project of analyzing four years of daily time series data provided no evidence of deterrence in the short term (Grogger 1990), but it did provide insight into the utility of the certainty versus the severity of punishment (Grogger 1991). Another work used monthly state level data from Texas and found no evidence of deterrence either (Sorenson et al. 1999), but a later study used monthly state level data from Texas and did find evidence of deterrence (Cloninger and Marchesini 2001). Evidently, different sorts of projects have yielded different sorts of results.

By the mid 1980s, capital punishment deterrence literature seems to have at least defined its most basic methodological dilemmas. Studies such as Kohfeld and Decker's (1984) would now move past an obligation to define basic modeling issues and instead again delve into primarily questioning the punishment itself. In this instance, the authors studied 48 years of Illinois data and found no deterrence effect of executions (Decker and Kohfeld 1984). They used a time series model and very simple correlational cross-tabulation, a basic approach that reflects their commitment to making a policy study such as this one relevant to actual policymakers.<sup>38</sup>

One understandable question is why are there so many methodological debates within this particular research question, situated within of all things, criminal justice policy? One explanation is that studies such as Leamer (1985) indicate that the question of capital punishment deterrence was both theoretically straightforward and debatable. This means either it works or it does not work. The question of capital punishment is also salient enough within econometrics to attract methodologists wishing to employ rather narrowly cast ideas. In other words, it has a vein of quantitative work behind it that is both very visible and easily tapped. It is also possible that so many methodological studies abound in this area because it is a matter of life and death and

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<sup>38</sup> Decker and Kohfeld later authored a general deterrence piece that does an excellent job of talking about how criminal justice policy scholars should frame their research in a relevant manner (1990).

therefore assertions of policy efficacy carry enormous weight. Another idea to consider is that there is a call for econometrics in a capital trial's courtroom.

Whatever the case, this research question has a quantitative modeling legacy to it that adds a layer of appeal to its study. To illustrate this siren call, consider the work of Leamer who proposed a particular type of organized sensitivity analysis that he called "global sensitivity analysis (1985)". Leamer and Leonard (1983) also developed a tool called extreme bounds analysis (EBA) that was then applied by McAleer and Veall to capital punishment (1989). In short, these scholars noted that explanatory variables are described with uncertainty, and they could measure this variable specification uncertainty in an attempt to find its effect on estimated coefficients. An additional article that developed methodology by Brumm and Cloninger finds support for Ehrlich while using a covariance structure analysis (1996). Ehrlich published on the deterrence effect of capital punishment again (Ehrlich and Liu 1999) to respond to the EBA critique of his work mentioned above (Leamer and McManus 1983), which had refuted his finding. He pointed out the flaws in EBA while developing an alternative sensitivity analysis that supported his earlier finding of a deterrent effect.<sup>39</sup>

Throughout this 30 year journey of methodological exploration, fewer scholars questioned the basic premises of the economic model of crime. Those who did explore the underlying theory related to deviancy and control were often sociologists (e.g., Amelang 1986, Opp 1989), several of whom wrote in their native German (Kaiser 1988; Wiswede 1979), and often talked past the quantitatively oriented economists. It is not surprising but indicates a deficiency in the literature nonetheless when the fields of sociology and econometrics talk past each other. This is a shame, because both are interesting theories worth considering. For

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<sup>39</sup> It is interesting that at this point Ehrlich discusses a hybrid model that conducts a log transformation on only one variable, perhaps indicating in him a draw down from his earlier advocacy for log form variables (Ehrlich and Liu 1999, 475).

example, one finds that the more serious the crime, the less deterrence makes a difference in the individual decision to commit it (Morris 1951). This has not been well tested to date in any sort of comparative analysis between different degrees of felonies. When quality theory is tested, such as Cloninger's study of capital punishment deterrence using a portfolio approach to crime, then the results can be enlightening (Cloninger 1992). In this work Cloninger develops a measure, *beta*, that relates the percentage change of a specified crime in a given community to the percentage change of all crime in the state or nation (Cloninger 1992; Cloninger and Marchesini 1995a; 1995b; Cloninger 2001). In another sound theoretical piece, Mendes and McDonald examine certainty versus severity of punishment (2001).

#### **IV. Theory of Crime and Tested Hypotheses**

Researchers applying thought from the Chicago school of microeconomics to the potential criminal deterrence of the death penalty often believe that before Becker (1968) and Ehrlich (1975) there was no legitimate debate on the issue at all (e.g. Cameron 1994). While there certainly was pre-Chicago school debate, the application of current econometric methodology to this question has framed scholarly discussion for forty years. Therefore, in order to most relevantly engage the deterrence debate, this shared language must continue to be spoken.

My central argument in this chapter is that the juvenile death penalty was not an effective deterrent of juvenile violent crime, particularly murder. Murder is of course the crime that the state execution of juvenile offenders was most directly intended to stop.<sup>40</sup> Thus this chapter has

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<sup>40</sup> A review of the case summaries of the former juvenile death row inmates exhibits that, minimally, over 60% of the murders were committed during the commission of another violent crime (data from Death Penalty Information Center) such as rape, burglary, or robber, and so by extension of that, violent crimes can be seen as the gateway to

two primary suppositions: first, that the juvenile murder rate, and second, that the juvenile violent crime rate were not a function of either a state having the juvenile death penalty policy “on the books” or of the juvenile death penalty’s actual application. An application of the penalty can be taken to mean one of two fairly independent phenomena. This concept of the punishment’s application is explored in the paper as either a sentence or an actual execution. Consider that a capital sentence, which may take decades to carry out or be overturned on appeal,<sup>41</sup> could still carry weight as a deterrent.

The best crime data available indicates that juvenile murder and violent crime totals both experienced a sharp rise from the levels of the 1960s and 1970s during the early to mid-1980s. After a peak was reached in 1993-1994, an equally sharp decline was experienced that brought crime levels approximately back to the levels seen in the 1960s and 1970s once again. This rise and fall corresponds with a similar rise and fall in adult violent crime and murder trends. Notably, adult crime can be interpreted as having two peaks that form a plateau of high crime levels, and a subsequent post 2000 decline that has plunged crime below the 1960s and 1970s rates.

Any individual picture of crime must correspond to the picture painted of society wide crime occurrence. Rules of aggregation dictate that data added together, in this instance the known violent crimes, must correspond to one another logically at both the collective and the singular level. Put another way, the thought on why a person commits any given single crime must align with thought on why “all Americans” or “all Kansans” commit crime. It would lead to an ecological fallacy to view each act of criminal violence as a unique case unto itself

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murder. The 19 states that had a provision for executing juveniles could have legally applied the punishment to non-murdering offenders, though no such sentences were handed down. See Appendix 1 for a listing of what constitutes a capital crime in the states which had a sanctioned juvenile death penalty.

<sup>41</sup> 72 people remained on death row for crimes committed when they were juveniles at the time the penalty was overturned in March, 2005 (DPIC).

regarding motive, and then postulate on societal influences on criminal activity that exist independently of personal motives.

The decision to commit any given crime is an individual one, made by a unique person. That decision might be affected by such things as out of control emotion, a limited cognitive processing ability, or illegal narcotics, but the decision to commit an act of violence ultimately lies with the person perpetrating it (Rhodes 1999). These sorts of individual decisions aggregate into the many thousands of acts of tragic violence committed annually in this country. This multitude of decisions to break the law and harm another person, stand in stark contrast to the countless times other people decide *not* to commit an act of violence. Both the motivations for harming others and the situations such harm occurs in changes on a case by case basis, but the decision rules remain the same. Violent crime has a cost and, one can only assume, a perceived benefit to its perpetrator. The present question becomes how heavily discounted any future cost is to a juvenile offender, even one facing death as a penalty for offense.

A failure in the criminal deterrence literature has been to adequately integrate individual criminal decision making with environmental factors. A review of the literature explaining crimes and how to deter them indicates that criminal justice theorists tend to see a powerful individual explanation of crime: the reason why an individual acts criminally. Lawyers call this motive; economists call this benefit. However, when aggregate criminal data is examined, the argument tends to become one of two highly divergent arguments. First, environmental factors are the cause of crime, known as the sociological “soft” explanation. The second argument is that individual decision making is still what counts and environmental factors are nebulous and do not explain much. This is the “hard” position of the deterrence works scholars. The correct approach is to build a model for study that as coherently as possible stays true to the idea that

individuals commit crime for individual reasons, but that they are encouraged or discouraged by incentives in their environment.

The statistics employed here represent real people who have committed real crimes, and by extension the data also begin to explain those who have *not* acted violently. A wealthy white person with married parents, a PhD, and a home in Beverly Hills might commit murder for a lark. A poor unemployed African American who just moved out of a single parent home, and who never went to high school, might repeatedly choose *not to commit* armed robbery to support his family. Nevertheless, environment often makes a difference, and educational attainment and a high standard of living reduce a person's propensity to harm others. This is because a person with more to lose has a higher potential material and personal cost to getting caught committing a crime. Such measured indicators of external environment as personal income and the percent of people with a bachelor's degree reflect the real world places in which crime may or may not occur. A well painted picture of the criminal's world will shed light on why he or she committed an act of violence as well as why either this was a relative surprise or a reflection of a life that coexisted with desperate circumstances and a high level of preexisting violence.

The hypotheses tested in this chapter reflect a test of deterrence theory as applied to the juvenile death penalty policy. My quantitative model integrates individual criminal decision making with environmental influence. I expect that the policy will not influence juvenile crime rates over the studied time period.

## Hypotheses Tested

$H_1$  : States that have the juvenile death penalty will not have a significantly lower juvenile murder rate (murders perpetrated *by* juveniles).

$H_2$  : States that have the juvenile death penalty will not have a significantly lower juvenile violent crime rate (violent crime perpetrated *by* juveniles).

$H_3$  : The number of juveniles sentenced to death by a state will not significantly lower the juvenile murder rate.

$H_4$  : The number of juveniles sentenced to death by a state will not significantly lower the juvenile crime rate.

$H_5$  : The number of juveniles executed by a state will not significantly lower the number of murders committed by juveniles.

$H_6$  : The number of juveniles executed by a state will not significantly lower the number of violent crimes committed by juveniles.

## V. Data Analysis

### Logic of Quantitative Analysis

I employ data from the American states with the unit of analysis being state years.

Research has demonstrated that American states have cultural differences between them that influence public policy (Elazar 1984; Hanson 1991). State level cultural traits are particularly important to keep in mind given the death penalty's firm roots in both the scientific calculations of crime deterrence and the particularities of American culture (Banner 2002; Hood and Hoyle 2008, 112-128; Masur 1989). Southern culture in particular has supported public executions since the nation's founding (Banner 2002; Masur 1989; Zimring 2003, 89-118). Though cultural boundaries are not as defined by state borders as statutory law is (Gray 2004, 1-29; Smith 2008, 11-15), there are real differences in how citizens living in different regions of the country view punishment (Abramsky 2007; Banner 2002; Masur 1989).



Actual state-by-state execution numbers, not just execution laws on the books, reflect the established idea of state level cultural variation. National statistics on the efficacy of the juvenile death penalty prohibit the unique characteristics of individual state politics and culture from being studied as an influence on crime rates. Disaggregation to the level of counties or census tracts and municipalities, while theoretically possible, would serve little substantive purpose for this research question. Death penalty law is state law, not county law. Additionally, effects of populations, politics, and culture that vary by each city or metro region would be confounding to sort out. As mentioned previously, some death penalty studies have used a single state (Cloninger and Marchesini 2001; Sorenson et al. 1999). However, the use of a comprehensive 50 state dataset is superior because of the problems of generalizability inherent to extrapolating from a handful of states, or a subnational region, to the other states. Including all states necessitates increased data, but the inferences are of a higher quality.

The time period used in this study is 1974 to 2006. No study of the deterrent effect of the juvenile death penalty has ever been published in the policy studies literature, so there is little frame of reference for what the comprehensive nature of this dataset offers. However, within the larger question of the deterrent effect of the death penalty as a whole, the most recent published works which employ larger datasets offer much less.<sup>42</sup> Yunker (2001) uses state level data from 1976 to 1997, which fails to capture the decline in aggregate crime levels seen since the middle to late 1990s. Dezhbakhsh, Rubin, and Shepherd (2003) use Lott's county level dataset, which while providing a level of specificity not seen in a state level study, leaves out the same recent crime drops as Yunker does. Part of this is a function of when those studies were written and part of it is a function of the understandable limitations to large data collection. However, the

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<sup>42</sup> Though some recent research still uses single years (McManus 2001). Apparently, McManus realized the importance of researchers' prior belief for Bayesian analysis, but only wants to take them into account for 1950 data.

inclusion of more recent observations reflecting a drop in aggregate crime not seen in decades is more valuable than a county level data analysis. As previously noted, this is a state level issue, and the strongest unit by unit variation in various descriptors is seen at the state level. This equates to a comparison of one state policy to another, with an N of 50. From a practical policy analysis standpoint, it is easy to not distinguish the forest from the trees when the N becomes 3,054. One example of this would be employing a data set that sacrifices recency for questionably valuable detail.

The first execution, including adults, after the modern era ban on capital punishment was on January 17, 1977.<sup>43</sup> The use of data for the years immediately before that allow for more observations of state-year dyads without an execution event of any kind. Similarly, though the juvenile death penalty was overturned in March 2005 (*Roper v. Simmons* 2003) and the last juvenile offender was executed in March 2003, the use of data through 2006 afford the study an ability to examine a 1, 2, and 3-year lag effect for juvenile sentences and executions. Policy scholar Paul Sabatier (2007) pointed out that a time period of a decade or more is needed to coherently study the implementation and effectiveness of a public policy, and this is the first study done in such a manner regarding the juvenile death penalty.

## **Measurement**

The selection of variables is a critical part of any policy analysis. In this instance of dealing with juvenile criminal deterrence, the variables selected contain data that provide the best possible portrait of juvenile crime rates. Accompanying the crime rate data are variables that

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<sup>43</sup> Gary Gilmore, who gained notoriety as the subject of a Norman Mailer novel, was executed by firing squad in Utah.

account for state environmental conditions such as ideology, the economy, and demographics. All of this information is studied alongside the legal status and use of the juvenile death penalty.

Dependent Variables. The dependent variables of juvenile murder rate and juvenile crime rate are at the center of this study. The data for these variables was gathered from original data tables attained from the Federal Bureau of Investigation's (FBI) Criminal Justice Information Services department. This information processing branch of the Justice Department responded to a data request for this information gathered under the Uniform Crime Reporting Program system (UCR).<sup>44</sup> The data include crimes committed from 1970 onward and are sorted by age, state, gender, and race.<sup>45</sup> The FBI tables also include information for each of 29 violent crimes tracked by the UCR (DOJ 2008). The data kept and distributed by UCR are gathered on a voluntary basis from city, county, state, and federal law enforcement agencies. It provides a nationwide view of crime unique in both its breadth and its scope. The system is not without its flaws, but it is the most widely used aggregate crime data. It is studied by criminologists and examined by others working in the criminal justice system, such as prosecutors and police chiefs.

The rate of arrest was determined through gathering the 5-17 year old population of the state using numbers from the Bureau of the Census. The issue of controlling for population is an important one. For one, there has been a broad trend in youth populations nationally, which has seen a rise in the number of minors living in states which had the juvenile death penalty. Similarly, the juvenile population of non-juvenile death penalty states has decreased overall. Though this rate calculation is not the same as the number of murders or violent crimes in the

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<sup>44</sup> For a book length treatment of the proper interpretation of UCR (and NCVS) data see Lynch and Addington (2007).

<sup>45</sup> Race and gender are folded together in this particular study.

real world, it is the best proxy available for this time period, due to both UCR reporting issues<sup>46</sup> and continuity in publicly available census data.

A variety of crime data is available that presents itself as an alternative to UCR. There are statistics gathered from criminal prison interviewees, but no such data is free of problems, most notably that of comprehensiveness. By its very nature, crime data attempting to capture broad trends is only as useful as its breadth. The most notable broad data collection program that presents itself as an alternative to the UCR is the National Crime Victimization Survey (NCVS). The NCVS is inferior to the UCR for this study for four reasons. First, the NCVS was designed to give law enforcement agencies a measure of unreported crime, whereas the UCR is a complete set of aggregate data for “total” crime (DOJ, Bureau of Justice Programs, 2008). Second, because it is a victim based reporting system, the NCVS excludes crime committed against children under age twelve. This is problematic for a study of this nature, because a frequent aggravating circumstance of capital crime is the murder of a child. Third, the NCVS, while useful to answer certain criminology questions, is subject to a great margin of error because of the methodology used in obtaining data for it. Finally, the NCVS uses a set of crime definitions different than that of the UCR, which can serve to distort the total number of robberies.<sup>47</sup>

Why look at juvenile violent crime as a dependent variable alongside juvenile murder, when the execution of a juvenile murderer only took place for murders? The driving reason to look at juvenile violent crime in this context is that many capital murders happen during the commission of a violent crime (Rhodes 1999, 72-73). Mentally picture here not a well planned

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<sup>46</sup> Beyond obvious issues of the totality of crime reported under UCR, the UCR “murder” numbers include crimes normally classified as “non-negligent manslaughter.”

<sup>47</sup> The NCVS does not ask victims to ascertain the motive of a person who broke into their home. That means that every attempted entry into a private residence might be classified as robbery, whereas in the UCR robbery has a more strict definition. This UCR definition makes the total number of robberies smaller and better reflects the everyday phenomenon of robbery as understood by police and criminal attorneys.

scheme of murder for hire, as seen on television shows, but rather a killing that occurred during an act of violence such as rape or armed robbery.<sup>48</sup> Under a rational actor model, a deliberating rapist, robber, or assaulter would consider the potential murderous repercussions of future action and might elect to desist from criminal planning and action. If that were the case with juveniles, then the juvenile death penalty would have caused a decline in not just murder but also other crimes holding the potential for murder.<sup>49</sup> Also, on its own merit, it is valuable to observe the relationship in a given state between the death penalty and violent crime perpetrated beyond murder. Finally, the lethality of criminal assault has decreased due to breakthroughs in both emergency room treatment and medicine (Harris et al. 2002). As a result, the violent crime trend is more divergent from the homicide trend than it used to be. The four categories of violent crime are murder itself,<sup>50</sup> forcible rape, robbery, and aggravated assault.<sup>51</sup>

Independent Variables. The first two variables in the study are dichotomous indicators of the presence or absence of the death penalty and juvenile death penalty. It is important to verify the historical accuracy of this measure, as it is not uncommon for a state to have the death penalty one year and not the next.<sup>52</sup> The idea driving their inclusion is that not all of any potential

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<sup>48</sup> For recent scholarship on sexual crime and its strong relationship to murder, see Beauregard and Proulx (2002) or Arrigo and Purcell (2001).

<sup>49</sup> For a book length qualitative study of why individuals decide to commit armed robbery, see Wright and Decker (1997).

<sup>50</sup> It is standard among criminologists to include murder in this statistic, which makes the index used here comparable to other work in the field of crime. One problem with UCR data is its hierarchical singular nature. For instance, if an individual commits eight crimes in one night of lawlessness, then only the most severe crime would be registered. The NIBRS solves this by basing itself on incidents rather than people.

<sup>51</sup> To the extent the phrase can be properly used, non forcible rape is statutory rape, which is not included in violent crime totals. Robbery is usually defined by statute as taking something with force or fear. A perpetrator need not be armed to make a theft a robbery, though brandishing a weapon is usually the necessary circumstance for the legal standard to be met for aggravated robbery. Here, to be clear, a robbery need not meet the statutory definition of “aggravated robbery” to be counted. The determination of the use of force or “fear” is made by reporting law enforcement agencies under FBI guidelines. Robbery is not to be confused with burglary either, which broadly defined is the act of entering a building to commit any kind of felony.

<sup>52</sup> Information on execution laws was gathered from and cross-checked using the following four sources: the Death Penalty Information Center; Streib (2004); The Book of the States (various); and a variety of state-level official web resources.

deterrent effect of the penalty is attributable to its use. Rather, there might be an effect that is driven just by the penalty being “on the books.” Examples of this include the Cold War nuclear deterrence theory or MAD (mutually assured destruction), which postulated that no country would launch a nuclear first strike for the fear of later reprisal. This example is pertinent because of the life-altering nature of the decision to commit murder. More pedestrian examples of deterrence include the idea that a police officer might be running radar over the next hill, so all drivers slow down all of the time when this risk is taken into account. Another example is that a random search by a security officer will prevent a concert attendee from sneaking in contraband.

The second two variables are counts of the juvenile sentences and juvenile executions themselves. They are separately listed in case the sentence receives more media exposure, or at least different exposure than the actual execution. It is these two events in the state execution process that are the most publicized, more so than say the beginning of the appellate process, and would therefore carry with them the greatest chance of deterring crime. Information for these variables was gathered from the Death Penalty Information Center (2008).

A study of the deterrence effect of juvenile capital punishment also needs to include a measure of incarceration rates.<sup>53</sup> One of the major dilemmas in criminal justice research is the question of simultaneity. A perennial issue in the field is sorting out what drives crime and incarceration from what they in turn cause. The best predictor of incarceration rate has been demonstrated to be the violent crime rate (Michalowski and Pearson, 1990; Young and Brown 1993), which is reassuring because capriciously locking up citizens would be problematic. Different scholars studying incarceration have noted that states tend to monitor each other’s incarceration rates and move towards a sort of normative mean rate of imprisonment (Ouimet

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<sup>53</sup> Though this rate is a rate of adult incarceration, it is a suitable surrogate for the statewide effects on youth for a particular level at which parents, family members, and friends are behind bars.

and Tremblay, 1996), thus avoiding a situation of too much or too little incarceration. Research has shown that the results of incarceration are mixed, with some studies finding that fewer homicides are committed (Marvell and Moody, 1997; Zimring and Hawkins 1995), while others find a negligible reduction in violent crime (Van Dine, Conrad, and Dinitz 1979). I expect that a higher rate of adult imprisonment will be correlated with higher crime numbers, putting aside the question of which one exists as the cause of the other.

It seems counter-intuitive that a high lock-up rate will be associated with high crime levels. After all, are not prisons supposed to drive down crime levels by removing deviant individuals from the general population? But consider what is happening. States are adjusting their prisoner population based on crime trends--the more crimes, the more people who are collectively put behind bars. It should also be remembered that the dependent variables in the present case reflect only the occurrence of crime within one population subgroup: juveniles. It can therefore be expected that the number of individuals in jail, most of whom are adults, is an indicator and perhaps contributor to state crime. The number is drawn from the Sourcebook of Criminal Justice Statistics (2008), and it is representative of the number of adult prisoners per one hundred thousand people in the state's population.

Economic conditions are also widely believed to affect crime rates (Michalowski and Carlson 2000; Montalvo-Barbot, 1997), suggesting that economic measures must be included in this research. Recent crime theorists explain that changing social structures have an impact on crime and punishment (McNamara 2008; Merton 2008; Michalowski and Carlson 2000; Wright et al. 1998), and in particular on the occurrence of youth criminal activity. Indeed, economic change has been directly linked time and again with deviant youth behavior (Feld, 1999; Guarino-Ghezzi 1994; Hagan and McCarthy 1997; Sherman 1995; US Congress 1995; van

Wormer 2003). This idea that society's macro-level changes, particularly regarding its economic class structures, has an effect on crime has been applied not only to the United States, but also to policing in Britain (Crowther, 2000), juvenile delinquency in Russia (Pridemore, 2002), drug trafficking in Puerto Rico (Montalvo-Barbot, 1997), and the increasingly mobile population of China (Curran, 1998). This study uses each state's gross product per capita as reported by the Bureau of Economic Analysis as a measure of overall economic strength.

Economic development has become ever more important to state policymakers and has therefore attracted more attention from researchers of state politics (Brace and Jewett, 1995). Due to its emergent nature, there is still no consensus on measuring the economic condition of a state within the field of public policy (Smith and Rademacker, 1999). Brace and Jewett write that "For at least a decade, economic development has become the Esperanto of state politics. Virtually every policy is now weighted by its anticipated impact on economic development". Political science studies attempting to measure state economic output have tried a variety of measurements over the years, including, but by no means limited to, real disposable income (Niemi, Stanley, and Vogel, 1995), personal income (Chubb, 1988), and three variations of the same (Hendrick and Garand, 1991). No one model has been found ideal, but some guidance, and solace can be found in economic literature. Two examples include Digby (1983), who looked at manufacturing employment growth, and Benson and Johnson (1986), who analyzed per capita manufacturing investment by state. Here the manufacturing output dollars of the state per capita, as well as the private industry output per capita, are used to capture the vitality of a state's economy.

I also account for each state's unemployment rate. Information for this variable was gathered from the Bureau of Labor Statistics data gathering work as reported through the Bureau



of the Census' Current Population Surveys. Unemployment (Grogger, 1991; Palermo et al. 1992), divorce rate (Palermo et al. 1992), and urbanization (Palermo et al. 1992) all have been shown to have at least some effect on the crime rate (for a case study of a particular metropolitan area that uses these measures, see Palermo et al. 1992). Looking at national unemployment as distinct from state unemployment allows the model to account for employment conditions across state lines, so it is included as well. Information for this federal level variable was gathered from the Bureau of Labor Statistics. Divorce rate was calculated from the U.S. Census Bureau's Statistical Abstracts of the United States. Though divorce rate is not seen as an optimal predictor of the concept of family or overall social stability, it is an adequate predictor with state-level data available for multiple decades. When considered with husband-wife households, a picture emerges of stability that includes notions of both single family households as a percentage of all living situations as well as the longevity of nuclear families. Data on husband wife households was gathered from US Census Bureau's Statistical Abstract of the United States in conjunction with Current Population Reports issued by the Commerce Department (1970-2008).<sup>54</sup>

Population density is the measure included as a proxy for state urbanization levels. This figure was gathered from the State Politics and Policy database for 1975-1991; for other years, it was calculated in a similar manner using Bureau of the Census statistics and known land area figures.

Tax per capita is also included in the study's model. This variable was included as another economic measure, one that gets at the strength of a state's tax base, which in turn affects the state's ability to spend on discretionary programs, such as efforts aimed at troubled youth. Also, the effect of state and local taxes on economic growth has been demonstrated

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<sup>54</sup> Such data's "hard collection points" are truly the decennial censuses. The other data is interpolated, be it by the Census Bureau or the researcher. In this instance, government issued interpolations were used for the regressions.

previously (Helms, 1985; Kone and Winters, 1993; and Mofidi and Stone, 1990). Information was gathered from the U.S. Census Bureau's Statistical Abstracts of the United States.

A state's investment in its own infrastructure, including education, is important to the overall well-being of the state's people (Smith and Rademacker, 1999). Therefore a measure of spending on primary and secondary schools was gathered from the Department of Education's National Center for Education Statistics, as reported by the Census Bureau. Furthermore, robust public education spending should be seen as a preventative measure to reduce problems such as youth gang activity and truancy.

Finally, this chapter has emphasized and recognized the validity of the idea of state culture several times. Culture is defined here as the aspect of a citizenry's collective liberal to conservative ideology that either changes very little or not at all. This concept recognizes that the shared history of Alabama's citizens is very different than the shared history of California's citizens and is taken into account. Data was gathered from the work of Berry et al. (1998, updated online thru 2006).

Model Description. The results of this study do not show support for a deterrent effect of any kind regarding the juvenile death penalty upon juvenile violent crime or juvenile murder.

The model used to arrive at this conclusion is a multilevel regression (Frees 2004; see also Greene 2003; Gujarati; Pinheiro and Bates 2000; Raudenbush and Byrk 2002). The terminology of multilevel modeling can be interchanged with hierarchical modeling or clustered modeling, as data in a multilevel model can be considered clustered or existing in a hierarchy. The nomenclature surrounding this type of model depends more upon the manner in which the researcher approaches the technique. Some researchers declare multilevel models to be a type of mixed effect model dealing with not-so-unusually nested data (e.g. Frees 2004), while others see

in this kind of model a new empirical way of looking at the world deserving of its own technical lexicon (e.g. Raudenbush and Byrk 2002). The mathematical principles are the same; the difference is stylistic, though Frees ceases to call this model a regression, preferring instead “mixed linear framework” (Frees 72).

There are five assumptions to the basic linear regression model (see Kennedy 2008, 41-42). If any one of them is violated, then the use of a simple model is precluded. In this instance, the assumption that all disturbance terms have the same variance and are not correlated with one another is violated, thus rendering ordinary least squares an improper functional form. This data experiences both heteroskedasticity and autocorrelation<sup>55</sup>. Given the cross-sectional time series nature of the data, this is not an unusual experience. The basic cross-sectional design of

ascribes disturbance solely to  $\epsilon_i$ . In the model used here, observation specific parameters can vary with  $i$ . Assuming  $\epsilon_i$  contains a certain consistent distribution, such as normal distribution, and remains homogenous across sampled observations is incorrect.

The FGLS approach used by Parks is a way to transform this statistic up to an acceptable level (Parks 1967). The Parks method estimates new models accounting for first order autocorrelation, and it then uses these residuals to estimate cross-correlation across units, which is named spatial autocorrelation. Results from this step are used to fill in more values of the matrix of covariances, and the model is estimated again. In the end, the result of this is “extreme overconfidence” through permissive estimation of Parks’ FGLS variant (Beck and Katz 1995).

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<sup>55</sup> A Durbin-Watson test on the juvenile violent crime model had a value of .6211, which is unacceptable. The Durbin-Watson’s  $d$  statistic is optimally 2.0. This statistic is calculated in R from the residuals of an OLS regression and reflects both heteroskedasticity and first-order autocorrelation. True autocorrelation was reported to be greater than 0. A Breush-Pagan/Cook-Weisberg test of constant variance of a null hypothesis showed that I have heteroskedasticity in both the juvenile murder rate models as well as in the juvenile violent crime rate models. This test was run using an OLS regression because it has the benefit of not demanding a correct functional form prior to estimation.

Through Monte Carlo analysis, Beck and Katz (1995) demonstrated that one should instead assume that the AR coefficient is the same for all cross-sectional units; in this study the states. Consequently, OLS should be used, but the standard error of the *B*s should be corrected. This is the “panel corrected standard errors” (PCSE) approach used often in research, which is actually a result of OLS analysis. Pragmatically, Beck and Katz argue that even if their approach is wrong, there will be less harm than using Parks’ method.<sup>56</sup>

Beck and Katz’s work moved the field’s ability to deal with longitudinal panel data forward, but it is unsatisfying because it assumes that *B*s are the same across space and time. In this instance, California is different than Kansas in matters of both crime and economics. One state cannot be estimated in the same “pool,” to borrow Beck and Katz’s language, without generating biased results. There are two procedural approaches that recognize this problem by employing a standard PCSE approach. The first is to use a fixed effect regression that would create factor variables for each state. This would eat up many degrees of freedom, but more importantly, it is logically wrong. It assumes that each of these state variables have an effect upon one another in a regression. In truth, California is not seen as influencing Kansas’s juvenile violent crime rate. They must be treated independently, an idea that is supported by the second approach: the hierarchical model employing mixed effects.

In short, cross-sectional studies conducted over time have non-deviating error terms that are dependent upon the subject classification alone. With this approach, Kansas is still Kansas and California is still California no matter which year it is, and they will always remain so. Recent political science work acknowledges that state level effects matter, particularly when being cautious about making an ecological fallacy in inference (e.g. Gelman 2008). As

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<sup>56</sup> Pointedly, they demonstrate that in Park's method, the number of observations (*T*) must be at least as big as the *N* in the *N*×*N* matrix. This assumption violates many and most political science research designs. STATA, for one, has a command for PCSE that explicitly uses this method of analysis rather than a FGLS or a WGLS approach.

described in the first approach, these terms could be accounted for by dummifying up all components of the subject class; in this instance all of the states. Instead, the approach used here treats the  $\alpha$ 's as if they are drawn from an unknown population and are thus random variables.<sup>57</sup> Parameters in estimating equations vary for each individual observation in a regression, and that rule holds in this mixed approach as well. But here a model is employed that creates a category for all of the Kansas observations, all of the California observations, and so on. Each grouping of states is assigned its own unique intercept, an intercept which does not vary by year. With this model, inferences can be made from one state versus another state over time, and inferences about the entire population of states are more accurate.<sup>58</sup>

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<sup>57</sup> For a death penalty study using both fixed and random effects see Jongmook (2009).

<sup>58</sup> The R code used in the NLME package is available from the author.

**Table 1: Determinants of the Juvenile Violent Crime Rate**

Linear mixed-effects model fit by R with NLME

Adjusted for AR(1) and Heteroskedasticity

Correlation Structure

AR(1)

1642 Observations

50 groups

Parameter Estimate

PHI=.548

Random Effects:

Group Name: STATE

	Std. Dev.	Residual
(Intercept)	0.587	0.63

Fixed Effects:

Variables	Coefficient	S.E.	t-value
Intercept	0.058	0.5	0.16
DP State	-0.038	0.1	-0.37
JDP State	-0.003	0.1	-0.03
Juvenile Death Sentences	-0.006	0.04	-0.15
Juvenile Executions	-0.046	0.09	-0.5
Adult Death Sentences	0.01	0.004	2.69
Adult Executions	-0.0008	0.008	-0.098
Incarceration Rate	0.0009	0.0003	3.06
Divorce Rate	0.028	0.03	1.07
Education Spending Per Capita	-0.0001	0.0002	-0.72
GSP Per Capita	0.048	0.034	1.4
Husband Wife Households	0.47	0.55	0.86
Citizen Ideology	-0.007	0.003	-2.7
State Ideology	0.001	0.001	1.02
Manufacturing Per Capita	0.049	0.034	1.42
Population 5-17 Year Olds	0.00005	0.00008	0.67
Population Density	0.002	0.0004	4.93
Private Industry Per Capita	-0.042	0.04	-1.16
Taxes	-0.0001	0.00005	-2
National Unemployment Rate	0.018	0.021	0.845
State Unemployment Rate	0.027	0.02	1.6

AIC 2893.5

BIC 3022.9

Log Likelihood -1422.8

**Table 2: Determinants of the Juvenile Murder Arrest Rate**

Linear mixed-effects model fit by R with NLME

Adjusted for AR(1) and Heteroskedasticity

Correlation Structure

AR(1)

1642 Observations

50 groups

Parameter Estimate

PHI=.34

Random Effects:

Group Name: STATE

Std. Dev.

Residual

(Intercept)

0.009

0.04

Fixed Effects:

Variables	Coefficient	S.E.	t-value
Intercept	0.04	0.02	1.57
DP State	-0.0006	0.004	-0.14
JDP State	0.002	0.004	0.53
Juvenile Death Sentences	0.003	0.003	0.93
Juvenile Executions	-0.00002	0.006	-0.003
Adult Death Sentences	0.0005	0.0002	2.14
Adult Executions	-0.0005	0.0005	-0.98
Incarceration Rate	0.000005	0.00001	0.43
Divorce Rate	0.001	0.001	1.14
Education Spending Per Capita	-0.000019	0.000009	-2.01
GSP Per Capita	0.003	0.002	1.99
Husband Wife Households	-0.018	0.03	-0.7
Citizen Ideology	-0.00006	0.00014	-0.41
State Ideology	0.0001	0.000009	-2.01
Manufacturing Per Capita	0.002	0.002	1.52
Population 5-17 Year Olds	0.000005	0.000002	2.23
Population Density	0.000005	0.000009	0.5
Private Industry Per Capita	-0.003	0.002	-1.9
Taxes	-0.000002	0.000003	-0.85
National Unemployment Rate	-0.002	0.001	-1.99
State Unemployment Rate	0.0006	0.0009	0.65

AIC

-6151.6

BIC

-6022.2

Log Likelihood

3099.8

The model was estimated with a Gaussian distribution, which in generalized linear modeling has the effect of making the canonical link the identity/normally distributed link.<sup>59</sup>

The GLM model has no closed form solution to it. This approach, as developed in R's NLME and LMER packages, can be flexibly applied to distributions that are not normal (Bates and DebRoy 2003). This has a practical advantage in this line of research because a Poisson distribution could be applied if the data suggested that as the proper form. In other words, the entire method need not be discarded if the shape of the data distribution changes, which is important going forward with further modeling in this subject.<sup>60</sup>

The Akaike information criterion and the Bayesian information criterion are reported. They should be looked at as a goodness of fit measure between two different models (Gill 2002; Katagawa and Akaike 1982; Lancaster 2004, 100-101). In other words, standing alone the numbers mean very little; their value is as a point of comparison between models in this study as well as between models other researchers might subsequently explore. There is no *p*-value listed on these results, because the inclusion of a *p*-value makes no sense because the study does not presuppose to know the shape of the distribution as in OLS modeling. Instead a *t*-statistic is reported. Models should not be chosen and judged however based upon their *t*-statistics either. Rather, the assumption is that the study has offered forward the correct model based upon sound

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<sup>59</sup> More data on GLM modeling is available from Gill (2001).

<sup>60</sup> A hierarchical model is a superb analytical tool for political science, because much data in the field is nested in groups, or best looked at as existing in different levels. For instance, a hierarchical model would be appropriate to look at different units of government within a federalist system. Indeed, these nested sub-national layers of government lend themselves to the approach outlined by Raudenbush and Byrk (2002). Another use of a hierarchical model within political science is to look at time series data, even that within a single unit of analysis. In other words, is there something about 1980's effects on policy that makes it different than 1990's effect on policy? Also, if the unit of analysis in the output variable is individual, but the input variables are aggregated at a state level, then a hierarchical approach could help make sense out of this otherwise nonsensical (but yet frequently attempted) jumbling of units of measure.



empirical theory. In this instance, the  $t$ -statistics serve simply to estimate the variability of the  $\beta$ 's based on this proper specification. Likewise, the and adjusted are not reported as pertinent measures of the goodness of fit of this model because in a time series dataset they will inevitably approach one (Kennedy 2008).<sup>61</sup>

## VI. Discussion of Results and the Potential for Further Research

### Discussion of Results

The Supreme Court wrote in *Thompson v. Oklahoma* that

The likelihood that a teenage offender has made the kind of cost-benefit analysis that attaches any weight to the possibility of execution is so remote as to be virtually nonexistent. And, even if one posits such a cold-blooded calculation by a 15-year-old, it is fanciful to believe that he would be deterred by the knowledge that a small number of persons his age have been executed during the 20<sup>th</sup> century. (1988)

Given the mysterious logic surrounding the high court's opinions on this issue, it is probably apropos that in the above decision the justices specifically limit their finding to 15-year-olds while simultaneously making a statement regarding all teenagers.

To summarize the results of my research, this chapter has shown that the presence or absence of a rarely used punishment has no discernible effect on the tiny portion of the juvenile population that commits violent crime. The results indicate stable models showing theoretically predictable findings. Support for all six hypotheses was found. It is important to note that given the length of time studied and the sheer amount of "cells" of data that support this research,<sup>62</sup> as

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<sup>61</sup> If more variables are included in this model the  $R_2$  will go up; taking variables out will lower it. See Green (1990) and Kennedy (2008). is calculated by  $1 - \text{SSE}/\text{SST}$ . As the sample size grows in a time series dataset, two unrelated series can trend together, causing the to approach unity.

<sup>62</sup> 23 years and 98,760 cells in its original iteration, more if the lagged data is included; but who's counting?

well as the nested nature of the data, the models show impressive functional stability with the addition and removal of variables, including the exchange of one dependent variable (murder rate) for another very different one (the much higher violent crime rate).

Noting the multi-decade period of study, the substantially complex nature of violent crime, and all the factors that go into the individual decision for a juvenile to commit a violent crime, the results are predictable and would surprise few who study juvenile delinquency and violence. The analyses make it clear that a number of factors have significant, yet small effects, on aggregate state crime numbers. In other words, the results support earlier theoretically based assertions that individuals make closely held personal decisions to plan and carry out violent crime with intent. While environment has an effect, the decision to commit a crime is one person's alone. At the same time, the juveniles' decisions are impulsive, emotional, and have a tenuous link with rational thought, an argument supported by these results. To the extent that decisions to commit youth violence are rational decisions, a distinction perhaps best left to those in neuroscience and cognition rather than econometrics, consequences are highly discounted.<sup>63</sup>

Taking first, juvenile murders, education spending reduces their occurrence. This should come as no surprise as these dollars are often used to fund programs like gang prevention programs, building security measures, after school activities, educator professional development, and other social programs that directly engage the young in positive activities. It is akin to the classic guns versus butter argument. This study supports the notion that controlling youth behavior is a zero sum game with education on one side and youth violence on the other. Many things do not matter in controlling extreme juvenile violence, but education funding is certainly one of them. The youth population in a state increases the rate at which they commit murder, but

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<sup>63</sup> The position of this paper is that the rational choice decision-making framework is open for discussion, but because of its dominance as a theory of criminal behavior it is here being tested. For an explanation and application of the idea to an area beyond capital punishment see Corman and Mocan (2000).

only slightly so. States with youthful populations are Texas and Nevada; states with older populations include Massachusetts and North Dakota (US Census 2007, 2008). It is doubtful that many youth gathered together in one place to foment murder, so much as states that have young populations have highly mobile, immigrant populations that possess the exogenous factors contributing to murderous tendencies.

Two variables showed borderline significance in one model while dropping off slightly in the other.<sup>64</sup> State ideology barely accounts for higher levels of murder. However, this is an unlikely function of an individual's "liberalness" or "conservativeness" directly causing murder. Rather more likely, states where those people live possess environmental influences on juvenile populations, namely urbanization. The other borderline impact variable is a decrease in national unemployment, which in one model shows a correlation with lower state juvenile murder rates (-2.02 in one model; -1.99 in the other). Other research has also found that a decrease in unemployment leads to a decrease in crime (Decker and Kohfeld 1990). The idea that reduced unemployment has a weak effect on juvenile crime reduction (as opposed to adult crime reduction) makes sense. Many factors effect unemployment rates, just as many things go into the milieu that is youth crime. As is supported by simple arithmetic of youth crime and adult employment data, many more adults standing around without work translates into only slightly more youth with a propensity to kill someone.

Perhaps the most fascinating finding regarding the juvenile murder rate is that adult death sentences are actually associated with higher levels of juvenile murder. Past work has found a similar phenomenon (Bowers and Pierce 1980; Cochran, Chamlin, and Seth 1994; Decker and Kohfeld 1990; King 1978), a finding that is not without controversy in its own right. This

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<sup>64</sup> Assuming a cut off in significance of .05 with a one-tailed test, the two are actually very close together from one model to the next.

observed phenomenon of capital punishments raising crime levels is called the “brutalization effect.” A spike in juvenile murders did not show up in any of the lagged models run in this study, which would support the idea that there is a brutalization effect. Research that has looked for immediate rise in crime rates following an execution has been more likely to capture brutalization (Cochran, Chamlin, and Seth 1994). The theory explaining this effect states that if society legitimizes lethal violence, then potential offenders lower their inhibitions to commit violence.<sup>65</sup> Particularly in instances when the potential murder victim is a stranger, meaning that feelings of empathy are at their lowest, perpetrator’s barriers against killing another person are relaxed. Once the idea of official deterrence efforts actually raising crime levels is mentally wrestled with, there is something intuitive about the cheapening of the value of life when the state is volunteering itself to end lives (Beccaria [1764] 1963).

Regarding juvenile violent crime, the same brutalization effect turns up. This is a finding in opposition to scholars who have proclaimed the deterrent effect of capital punishment. In the adult death sentences model, and in the accompanying model with a “folded together” variable representing “any adult or juvenile death sentence or execution,” there is noticeable rise in juvenile violent crime occurring in the same year as the event. This effect does not show up in the lagged models, which again emphasizes the quick nature of any societal impact of execution events. The impact of state death sentences and executions should be thought of more like a match flashing than a slow-burning wax candle.

However, other possible crime rate drivers can be thought of as possessing the slow burning effect. In the violent crime models, there could be some evidence of a delayed and prolonged effect from incarceration rate and population density. This possible effect is

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<sup>65</sup> Immanuel Kant saw this as a “cost” to punishing individuals beyond that of “promoting another good” (Kant as discussed in Zimring and Hawkins, 1974, 35-42).

associated with higher crime levels among the young. The present interpretation is that this could be either a driver of high crime levels or a reaction to them. Questions of simultaneity again cannot be ignored, and a study addressing these variables directly might be better equipped to answer them if a shorter duration time period is used. A year is not the best unit of time when the core research question is the temporal aspect of crime deterrence policy. Shorter duration data for such a study is only available on a per jurisdiction basis, however. A few counties or a few cities might have kept these records, rather than at the comprehensive aggregate level employed in this study.

A higher tax rate is seen to exist alongside lower crime. This can be understood in two ways. The first idea is that taxes fund social programs that lower crime. After all, tax programs fund such things as drug education programs and urban renewal programs. The second idea is that higher tax rates are found in communities that would have lower crime rates anyway. But, given that large metro areas have both higher crime and higher taxes generally, it seems that this study offers the beginnings of support for crime prevention programs. The tax variable is including revenues spent on all sorts of public goods, not just crime prevention programs, so any conclusions based upon this finding should be made with caution.

Finally, citizen ideology is shown to have an effect on juvenile violent crime. In this instance, states with a more conservative ideology tend to see higher levels of violent youth crime. It could be seen as spurious, along with the result on liberalness driving murder. More likely, there are broad social trends that reflect both the lasting public mood and ideas about social programs that have an effect on crime. These results would not be seen as spurious, but rather valid information to debate within the realm of state culture defined by Elazar (1984).

To conclude, this chapter centers on a rare event in the criminal justice universe whose legality is now expired: the execution of a murderous youth. In an American justice system where state sponsored executions are rare punishments, the execution of a minor, when legal, was rarer still. However, this research is valuable on two fronts. First, this study is unique in that it looks at one punishment from beginning to end, with a timeframe that is comprehensive in its scope, yet manageable, and comparable from beginning to end (1974 to 2006).<sup>66</sup> Knowledge is not gained from looking at the effect of capital punishment in just 1950 because of the quirks a single year might have had. Likewise, an enormous database spanning 1900 until 2009 would present crime trends that are both spurious and intervening, necessitating a high level of historical context to make sense of them. Temporally intelligent studies must be conducted to fairly evaluate a public policy. This work is valuable because it takes one subpopulation targeted by capital punishment and finds no evidence that it swayed their murderous and violent tendencies. Indeed, some evidence is found that it had the opposite effect.

That raises the question: “What other subpopulations are not deterred by the death penalty, or might even commit more violence because of it?”

### **Further Research**

Criminal justice literature has produced a corpus of research on the validity of capital punishment as a crime deterrent. Yet none of this work has broken down the offender population into its constituent pieces. Data has been separated by time, and to an extent place, but not by characteristics of the convicted. There is a disjunction between such a general approach and research that looks at the sort of person who commits an individual criminal act. Types of

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<sup>66</sup> One important book regarding policy theory places the call for policy studies of a sufficient length on its first page (Sabatier 2007; see also Baumgartner and Jones 1993; Derthick and Quirk 1989; Eisner 1993; Kirst and Jung 1982; Sabatier and Jenkins-Smith 1993).

people who hold a certain opinion are also looked at when polling data tracking public support for the penalty is analyzed. For instance, the fact that men support the penalty more than women is well known (General Social Survey 2009). This disaggregating approach should also be applied to the question “Whose behavior, specifically, does the punishment control or not control?”<sup>67</sup>

Pursuing death penalty exception cases, such as those concerning the mentally challenged and juveniles, is a common legal strategy for punishment opponents. But again, there is a disjunction between breaking the offender population up into those population categories in a courtroom setting versus in an academic one. Abolitionist legal advocates have seen the value of highlighting subpopulations who will be little deterred by the threat of being put to death. This legal pursuit alone makes germane academic research important within the policy realm.

Age, ethnicity, and gender would make meaningful characteristics to examine when looking at whether or not the punishment affects population groups differently. Capital punishment should be seen in this diverse context, as a potential upward driver of crime upon certain populations because of the brutalization effect. This brutalization effect may have varied strength with these different groups. Selective enforcement has been brought up by the Supreme Court regarding capital punishment, as noted earlier, but what about systematic effects on different subpopulations’ criminal activity?

Beyond replicating this study and looking at another population group, the model could be extended to questions of juvenile delinquency that are not punishable by death. In other words, if juveniles are different cognitively and they respond differently than adults to the potential costs found within the criminal justice system, then what punishments work and do not

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<sup>67</sup> As was the case in social control research beyond the question of capital punishment (e.g. Houston and Richardson 2004; Lukes and Scull 1983; Sherman 1984).

work on them in a given situation? Under a rational choice model of crime, how much of a future discount do juveniles place on their actions, and is it so great that alternative sentencing policies make sense rather than the hand of the state more firmly applied? Can this discount rate be quantified to an exact point?

Research could also be advanced by looking at some different variables or “old” variables in different ways. Variables for gun ownership and policing were not included in these models but have been studied many times for their own impact on crime. The role of police was not included primarily because it is difficult to get accurate data measuring police activity at the state level for this extended time period. It is the view here that the role of police in stopping homicide and juvenile crime are two separate matters. Furthermore, policing policy as a juvenile crime deterrent will not be directly linked to the size of a police budget or the number of full time sworn officers. Even if reliable data for those basic measures of police force size were included, it is likely that the type of police activity conducted matters more than the number of officers carrying it out. One issue of variable construction is the composition of the execution data in previous capital punishment work. For instance, were the 22 juvenile executions included? If so, was the crime rate simultaneously studied inclusive or exclusive of juvenile crimes or did it just include the adult data?

The challenge long recognized within criminology is to conduct research that best fits together individual decision making with the environment. It would be accurate to say that the criminal justice subfield’s grappling with this issue has largely defined it for the past fifty years. Research dealing with criminal deterrence generally and the death penalty specifically is no exception to this rule. Questions regarding efficacy can often be reduced to the relative weight assigned to exogenous factors and internal decision making under a cost-benefit framework of



some kind. The debate framing scholarship on capital punishment's potential deterrent effect fits in with this lasting debate engulfing the larger subfield of crime research.

Going forward, more advanced methodological techniques such as those adequately dealing with nested data will continue to emerge as accepted practice. Still, it is the need for better data that is even more pressing. The theoretical dilemma presented above, the melding of individual criminal decisions with macro-level influences, can be best addressed by studying data that is at the individual level. Imagine the insights a study offering the 22 individual cases of executed juveniles would add to this study. How aware were these individuals of executions and sentences? At the time of their crime, did they realize they were in a state that might execute them for their crime? Such data presents challenges to the aggregate data collection now practiced by the federal government.

To the credit of the Department of Justice and the scholars and law enforcement professionals who called for it, such a new crime reporting system is now being implemented. This system, the National Incident-Based Reporting System (NIBRS), is coming online in many states and has great potential to offer new data for meaningful study as it comes online. As of yet there is still not enough NIBRS coverage to make statements about national crime trends, but the prospect of combining this more detailed data with existing information is exciting.

## **Chapter 2**

### **Symbolic Representation in Police Traffic Stops**

#### **Introduction**

One of the central questions to evaluating the effectiveness of American governance is how well the link between citizens and government officials functions. Key to addressing this concern lies in understanding the process of democratic representation through examining policy outputs. Consider that tangible measures of policy success, such as the unemployment rate, the amount of favorable legislation, or reduced crime levels, could be evaluated in terms of their alignment with citizen preference. A different approach to evaluating governance is to examine what actions of their government citizens perceive to be legitimate. This is of particular importance when discussing minority groups, who due to the majority rule nature of American political processes are less likely to see the realization of their policy wishes. Put another way, trust in government matters just as real policy outcomes do. Further, high levels of distrust can plant the seeds of citizen unrest and provide the potential for protest movements.

One can hypothesize that a citizen will trust the actions of government officials who resemble them more than those officials who do not resemble them. The idea that people in government mirror members of the general population regarding such characteristics as age, education, gender, income, occupation, and race is called descriptive representation. A higher degree of descriptive representation has been linked to improved policy outcomes for a group (Bratton 2002; Bratton and Haynie 1999; Eisinger 1982; Haider-Markel, Joslyn, and Kniss 2000; Lim 2006; Mladenka 1989; Saltztein 1989). Improved outcomes for a particular group from descriptive representation can be argued to have been caused by active representation. Active

representation means that an agent chooses to act on behalf of a principal to create a desired change.

Though active representation is important to the proper functioning of representative government, there is a parallel phenomenon contained within descriptive representation called symbolic representation. Symbolic representation is the notion that the mere presence of a government official similar to a citizen has a cognitive effect upon them that leads to feeling of trust and legitimacy in government (Pitkin 1967). Because symbolic representation occurs simultaneously with active representation, the effects they might have upon citizens would be confounded.

In this chapter I explore the impact of descriptive representation using individual level data rather than aggregate level data. In doing so I am able to examine the effect of symbolic representation separate from active representation. Symbolic representation after all is an individual mental response, not a policy or political process, so its existence must be analyzed at the level of a single involved citizen. Following Theobald and Haider-Markel's (2009) analysis, stop data from the Police-Public Contact Survey (PPCS)<sup>68</sup> is used to produce findings on the interaction between individual citizens and a government employee. However, rather than use 1999 data as they did, this research uses survey data regarding traffic stops in 2002 and 2005 to investigate symbolic representation. The survey data recounting interactions between police officers and citizens presents the opportunity to study the feelings an individual has about government legitimacy after an encounter with a government official. The surveys' demographic data offers information on the interaction between same race minority citizens and bureaucrats, alongside interactions between minority citizens and white police officers.

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<sup>68</sup> The Police-Public Contact Survey (PPCS) is a supplement to the National Criminal Victimization Survey (NCVS) conducted by the Bureau of Justice Statistics (BJS)

The chapter begins with a literature review of elected and unelected representation. This is followed by a brief explanation of symbolic representation, which serves to distinguish it from active representation, particularly regarding its effect on minority groups. Next, some background is provided on racial profiling in order to provide context to discretionary police traffic stops. There is indeed a history to race and traffic stop policy that needs to be introduced. I then outline my strategy of analysis and variable measurement. Following the presentation of the model and results, I discuss the policy implications of the results.

### **Elected Representation**

American representative democracy operates on the assumption that elected representatives act on the behalf of citizens rather than in their own self interest. Through the voting process, citizens delegate most of their governmental decision making authority to elected officials. This model of governance assumes that elected officials are more capable of steering the policy process (Selden, Brudney, and Kellough 1998; Wamsley et al. 1990). Instead of putting their own concerns first, professional politicians are supposed to manifest the desires of their constituents through actions taken while in office. There are two primary groups of actors in this model. The first is citizens, who are called *principals*, and the second are elected officials, who are referred to as *agents*. The accompanying formal reasoning of *principal-agent* theory (Barro 1973; Weingast 1984; Zou 1989) dominates how political scientists conceptualize the relationship between high officials and the citizenry (Lane 2005; e.g. Pitkin 1967; Manin 1997; Mansbridge 2003; Mezey 2008; Miller and Whitford 2006; Rehfield 2005; Urbanati 2006).

While representative democracy allows those who are at least in theory better prepared to govern to take the reins of government, it creates a misalignment of goals. In other words, those who push the buttons and the pull the levers that make American government run are self interested individuals just as are the people who elected them. Therefore, they intrinsically have different selfish interests than the selfish interests of those who put them into office (Smith [1776] 2003). This is the conundrum of representation--a gain in governing efficiency is made at the expense of realizing divergent goals amongst principals and agents.

Representation of citizen interest through agents has been studied extensively in political science beyond the dyadic relationship between a citizen and an individual legislator<sup>69</sup> (Kuklinski 1979; e.g. Fenno 1975; Lijphart 1999; Miller and Stokes 1963). A strict dyadic conceptualization of representation is too simple to accurately portray the complex environment in which democratic governance occurs. Scholars of representation have noted that a single principal model is highly unrealistic (Meier and England 1984; Moe 1984, 1987; Mitnick 1991; Waterman and Meier 1998). In fact, a study of an EPA program identified 14 possible principals that might influence elected agents to shape policy (Waterman, Wright, and Rouse 1994).

### **Bureaucratic Representation**

Multiple agents are typically involved in the policy process, and these agents may be either elected or unelected (Ostrom 2007; Waterman and Meier 1998, 178). Researchers in this area have applied the principal agent model to control of unelected bureaucrats (Brehm and Gates 1997; Garvey 1993; Moe 1984; Zucker 1987). In its most simple form, it is conceptualized that a bureaucratic agent is responsible to either a supervisor in a hierarchy or to the legislature which conducts oversight and provides funding (Lipsky 1980, 216 fn 20; Lowi

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<sup>69</sup> Or for that matter, single legislature.

1979). The most obvious difference between bureaucratic models, as opposed to congressional principal-agent models<sup>70</sup>, is that now the agent is a non-elected public employee. Rather than a periodic check on office holding through a ballot box, bureaucrats have more indirect lines of accountability. However indirect they may be, relationships between citizens and the agents of their bureaucracy still exist in this unelected environment.

Scholars of bureaucracy and public administration have developed more complex models explaining the relationship between bureaucrats and citizens (Mitnick 1973, 1975, 1980; Moe 1982, 1984, 1985; Scholz and Wei 1986; Waterman and Meier 1998; Wood 1988; Wood and Waterman 1991, 1993, and 1994). For one, it has been recognized that the policy process is often not based on hierarchical formations, but rather on networks (Adam and Kriesi 2007). Bureaucratic behavior has been explained while taking into account such things as organizational theory (Brehm and Gates 1997; Harmon 1995; Meier and Nigro 1976), a sense of responsibility or ethics among bureaucrats (Kaufman 1969; Leland 1999; Vincent and Crothers 1998), and agent accountability (Dubnick and Romzek 1991, 1994; Romzek and Dubnick 1987). The basic truths underlying the reasoning of the principal-agent model remain, just as with the case of elected members of a legislature. For instance, the condition of information asymmetry is present with unelected officials as it is with elected ones (Niskanen 1971; Stein 1990). Similarly, as is the case with Congress, there is goal misalignment with unelected officials and the greater population (Mitnick 1973, 1975, 1980; Lipsky 1980; Perrow 1986; Sjoberg, Brymer, and Farris 1966; Waterman and Meier 1998).

The behavior of bureaucrats as representatives of citizen preferences is an important topic in understanding American democracy (Krislov and Rosenbloom 1981; Meier and Stewart 2003,

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<sup>70</sup> Or models addressing the president (Downs and Rocke 1994) or the Supreme Court (Songer, Segal, and Cameron 1994).

125; Nachmias and Rosenbloom 2003; e.g. Bratton and Ray 2002). In 2004, the United States government had 4,186,938 employees (OMB 2006). The vast majority of these people, including the approximately 1.5 million active duty members of the military, will rarely be encountered in a professional capacity by a typical citizen. Those bureaucrats who do encounter citizens most frequently are among the class called street level. Street level bureaucrats, be they federal, state, or municipal employees, provide a front line service to citizens (Vinzant and Crothers 1998). Counted among their ranks are teachers, postal letter carriers, and police officers.

Although not managers, street level bureaucrats such as police still exercise considerable discretion in their job (Chaney and Saltzstein 1998; Cook 1996; Downs 1967; Handler 1986; Hedge, Menzel, and Williams 1988; Kaufman, 1960; Lipsky 1980; Maynard-Moody and Musheno 2000). Scholars have found that they might deviate from instructions because they feel like it, are opposed to a particular policy output, or would rather produce a negative output (Brehm and Gates 1997, 30). Though not mirror images of the general population (Cayer and Sigelman 1980; GAO 1991), bureaucrats resemble the general population more than elected officials do (Engstrom and McDonald 1981; Long 1962; Sigelman 1974; Woll 1963). Consequently, in terms of democratic governance, the bureaucracy stands as an opportunity for government to closer align its preferences with the citizenry. For instance, minority employment in a bureaucratic agency increases the implementation of policy favorable to minority groups (Aaron and Powell 1982; Cole 1986; Meier 1979; Meier, Stewart, and England 1991; Weiher 2000).

Due to the discretion possessed by street level bureaucrats, the matter of their adherence to citizen preferences is arguably as important as it is with elected members of government.

This idea has been dubbed “representative bureaucracy” (Meier 1984; Pitkin 1967). The study of bureaucrats being representative can be traced to the growth of twentieth century bureaucratic governance. Because of the labor pool from which they draw, Marxist scholar J. Donald Kingsley believed that English bureaucrats would tend to reflect middle class society (Kingsley 1944). Later, Levitan (1946), and Van Riper (1958) made clearer the notion of unelected officials reflecting not just society broadly defined, but more specifically the policy preferences of the public. While bureaucrats can shape policy actively (Levitan 1946; Van Riper 1958; Wood 1988), they can also passively represent citizen interest (Eulau and Karps 1977).

### **Active and Symbolic Bureaucratic Representation**

The riddle to bureaucratic representation becomes to what extent are favorable outcomes for a minority group achieved by active representation, and what is achieved just by passive representation? First, two definitions need to be established. Active representation is the decision making behavior on the part of a specific group of civil servants that tends to affect systematically the resource allocation of a specific group of citizens (Hindera 1993). At the street level, individual level evidence of this behavior has been found in female child care workers through examining direct contacts with children (Wilkins 2006). Passive representation is descriptive representation that, through no active behavior, leads to subgroups’ perceptions that the actions of their government agents are justified or legitimate (Fox 1997; Saltzstein 1989; Theobald and Haider-Markel 2008, 411). It makes sense intuitively that a subgroup member acting in an official capacity will work towards the goals of that subgroup. However, it must be noted that descriptive representation does not always translate into positive policy representation for a subgroup (Endersby and Menifield 2000; Whitby 1997).



Bureaucratic representation, as a way to conceptualize bureaucracy, is made up of both of these components: an active piece and a passive piece (Coleman, Brudney, and Kellough 1998; Hindera 1993; Meier and England 1984; Pitkin 1967). Some scholars say they are linked together (Thompson 1976), as Fenno does when discussing minority representation in the House of Representatives (Fenno 2003). The active component can be seen as mediation between the demographics of the bureau and the policy interests of a minority subgroup (Selden, Brudney, and Kellough 1998). While this mediation of interests is important in advancing a group's agenda, officials are also thought to propagate the realization of favorable policy by their mere presence (Browning, Marshall, and Tabb 1984; Gerber, Morton, and Rietz 1998; Haider-Markel, Joslyn, and Kniss 2000).

There are countless bureaucratic decisions made that influence the lives of citizens. But there are fewer that have as directly measurable an outcome as a traffic ticket that is singularly discretionary by a street level bureaucrat. This means police traffic stops offer a chance to disentangle the active and passive threads to bureaucratic representation. During police traffic stops, a street level bureaucrat is acting with considerable delegated authority and discretion. After all, it is up to the individual officer if he or she will or will not pull a vehicle over for a traffic violation. When performing this official duty, the officer is both making an active choice to engage in a selective enforcement behavior while also simply existing as a minority or non-minority public employee. Though citizen-bureaucrat one on one interactions are not rare, such face-to-face dyadic exchanges between a citizen and a bureaucrat are not commonly tracked regarding the participants' race and the discretionary outcome. Even rarer than systematic data collection on a set of such interactions is an attitudinal survey instrument mated to the outcome of each citizen-bureaucrat exchange. Fortunately, the data presented here offer an opportunity

for such analysis. This chapter poses the question: Is there a symbolic representation effect evident in how citizens view the legitimacy of police stops that can be separated from the outcome of the stop itself?

## **Racial Profiling**

Descriptive representation is more likely to lead to passive representation when the policy is in the domain of race (Thompson 1976). Police traffic stops are a citizen bureaucrat exchange suitable to study passive representation in this regard. Three reasons present themselves to make this case. First, police have considerable discretion in their jobs as they interact with minorities, a fact that citizens are aware of (Barlow and Barlow 2000, 2002; Skolnick 1966). Second, police hiring practices have a lengthy history of not reflecting minority populations with accuracy, though there is increasing diversification within their ranks (Alex 1969; Barkan and Bryjak 2009; Leinen 1984). But most important, the contentious history and practice of traffic stops places this discretionary behavior firmly in the camp of race relevant government action (Tyler and Wakslak 2004).

In particular, the policy and practice of racial profiling has created a high degree of interest within African-American communities regarding their police's behavior (Christopher Commission 1991). Evidence has pointed to minority citizens being either stopped while driving or frisked while walking at a consistently higher rate than whites (Barlow and Barlow 2002; Boydstun 1975; Harris 1999; Lamberth 1997; Meehan and Ponder 2002; New York Attorney General's Office 1999; San Diego Police Department 1999). This phenomenon has come to be called "driving while black" or "walking while black." Research in this area has gone beyond merely looking for its existence. Recent work analyzing traffic stop data from Boston was

examined to determine the impact of the officer's race on the relative frequency of white and minority driver stops. The study found that when officer race and citizen race are different, stops are more likely (Antonovics and Knight 2009). Another study used the NCVS datasets from 1999 as well as the 2002 set used in this study. That research looked only at frequency of stop by race but not the feelings of legitimacy possessed by citizens. Incidentally, their work did find a race effect using these data: black officers are less likely to ticket black traffic law violators (Gilliard-Matthew, Kowalski, and Lundman 2003).

Though there is strong evidence for the impact of race on police traffic stop practice, there is a portion of the research that has found only qualified or contingent results for racial profiling (e.g. Novak 2004). For instance, sometimes this higher per-capita minority stoppage rate has been explained away by increased patrols of predominantly minority neighborhoods, which tend to have higher crime rates (Petrocelli, Piquero and Smith 2003; San Jose Police Department 1999). Going a step further, other work has found that there is no evidence of racial profiling (Florida Highway Patrol 2000; Smith and Petrocelli 2001), though subject reactivity and agency reporting bias is a concern in any research using participant observation techniques (Manheim 2002; Neuman 1997).

As a matter of constitutional law the fourth and fourteenth amendments preclude stopping a person in a car just because they are a racial minority.<sup>71</sup> In light of this basic principle, many states have made racial profiling explicitly illegal per statutory law (e.g. Connecticut). The relevant governing federal decision on racial profiling is *Whren v. United States*, 1996 (517 U.S. 806). It can be argued that the *Whren* case leaves the door open to racial profiling because it allows police to stop African-Americans without probable cause or reasonable suspicion (Barlow

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<sup>71</sup> The protections are against unreasonable search and seizure, and the guarantee of equal treatment under the law. The U.S. Constitution's Fifth Amendment protects against discrimination by federal law enforcement officers, and the Civil Rights Act of 1964 prohibits discrimination by law enforcement agencies that receive federal funding.

and Barlow 2002). All an officer must do to unnecessarily stop African-Americans at a higher rate and avoid prosecution is possess the willingness to lie about their intent (Bast 1997; Harris 1997, 1999). The standard for discerning proper and improper discrimination in traffic stops is now the question, “What would a reasonable police officer acting reasonably do?” (*Whren v. United States*, 517 U.S. 806)

An abundant body of research exists on race and the frequency of what are ostensibly traffic stops,<sup>72</sup> but much less work is done on the citizens’ perceptions of the legitimacy of discretionary stops. The Supreme Court has set the guiding legal standard of proper conduct against the yardstick of police operating procedures followed reasonably. But what is the opinion of the American public on this issue, particularly of citizens of a minority race? What are the perceptions of the public regarding the legitimacy of police behavior?

The most compelling early study to examine officer and citizen race was done by Perry and Sornoff in 1973 using data from the Rochester, New York Police Department. The research used a smaller *N* than this study, as well as that of other subsequent efforts (Lundman and Kaufman 2003; Theobald and Haider-Markel 2008), but the sample was designed to be statistically representative.<sup>73</sup> Although presenting a more thorough examination of policing than research solely focusing on race, the researchers did devote some of their citizen interviews to their perceptions of police behavior in a racial context. The data revealed mixed support for the notion of variant police treatment toward people of minority racial status. Interviewing conducted for the study found evidence that police were perceived to treat “upper class, rich, influential” people better than most (Perry and Sornoff, 1973, 25). Those citizens who lived

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<sup>72</sup> This research includes the data collecting efforts, and accompanying internal analysis, conducted by many states under the mandate of statehouse legislative efforts (e.g., Carolina and Virginia).

<sup>73</sup> Perry and Sornoff interviewed 57 “outside inner city” residents and 137 “inner city” residents (Perry and Sornoff 1973, 17). They worked with all 24 beat patrol officers in the area and studied 16 of them more completely (ibid, 17-18).

outside the inner-city as well as the police themselves found minority treatment to be fair, but it was not judged so justly by the inner city residents (26). That supports the conclusions reached in this chapter.

A more recent research effort used neighborhoods in Washington D.C. as a sample to gather aggregate level data on perceptions of police behavior toward minorities. Race was found to be a significant predictor of citizen attitudes regarding police (Weitzer 2000). This study makes an important conclusion about the context of neighborhoods in determining perception, but it does so employing a sample of 169 people in a single metropolitan area. More pointedly, it aggregates the data into a public opinion poll response format rather than using incident level information. While this approach might be suitable for studying the question of environmental influence on perception, it does not suffice to make statements about the ground level interactions between citizens and police officers of particular races. Another study using a public opinion survey found that minorities perceive racial profiling to be more prevalent than whites do (Weitzer and Tuch 2002). While nearly 85% of surveyed whites were shown to disapprove of the practice, blacks were shown to disapprove at a higher rate of 94.3%.<sup>74</sup>

It is important to note that when discussing citizen perceptions of the validity of police stops, an officer does not typically give race as a reason for a stop (Tyler and Wakslak 2004). That leaves the citizen guessing what the actual motive for a stop is. Telephone surveys conducted with citizens of New York City and two cities in California found that citizens believe racial profiling occurs. Relevant to the present work, minorities were more likely to state that race-based profiling exists as police practice (ibid, 272). Again, this is distinct from a study

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<sup>74</sup> This is a finding supported by a 1999 Gallup Poll that found more than 80% of respondents disapproving of racial profiling (Gallup).

gathering data on police stops at the incident level, but it points out that minorities have different perceptions of discretionary police behavior.

## **Data and Measurement**

The data for this study comes from the Police Public Contact Surveys (PPCS) conducted as periodic supplements to the annual National Crime Victimization Surveys (NCVS). Both the NCVS and the PPCS supplement are conducted by the Bureau of Justice Statistics. BJS is a branch of the federal government housed within the U.S. Department of Justice. The NCVS is a data instrument well received in the field of criminology for studying crime victimization (Lynch and Addington 2007; Rennison and Rand 2007). The NCVS sample design is built around the concept of statistically representative households, within which multiple individual interviews may be conducted. The survey interviews take place either in person or through the use of CATI. To learn more about how often and under what circumstances police-public contact becomes problematic, a periodic supplement to the NCVS was designed and beta-tested in 1996. The 1996 pretest was employed with a nationally representative sample of 6,421 people aged 12 and older. The survey revealed that about one in five citizens had direct, face-to-face contact with a police officer at least once in the year preceding the survey.

Based on information gleaned from the 1996 effort, BJS redesigned the instrument for 1999. The sample universe became all NCVS respondents aged 16 and older. It was developed to be nationally representative. 94,717 individuals were included in the NCVS data. Of those, 80,543 were administered the PPCS. The reason for the smaller number of respondents to the PPCS is primarily the exclusion of proxy interviewers, though non-English speakers are also precluded from taking the supplement.

The PPCS, following its scheduled three year rotating implementation plan, was also administered in 2002 (ICPSR 4273) and 2005 (ICPSR 20020). The basic conception was the same as the 1996 effort, which was to gather information about police and citizen encounters. However, the instrument has changed each year it has been used, so there is no perfect continuity between the three available years of full survey data. The rotating sample frame has remained the same, though there have been budgetary constrictions that continue to reduce the number of in-person interviews conducted to gather data.<sup>75</sup>

### **Dependent Variables**

The dependent variables for the logistic regression are yes and no questions from the PPCS supplements for 2002 and 2005. Yes responses were coded “1” and no responses were coded “0”.

The 2002 dependent variable is:

Would you say that the police officer(s) had a legitimate reason for stopping you?

The 2005 dependent variables are as follows:

1. Would you say that the police officer(s) had a legitimate reason for stopping you?
2. During this contact do you feel that a majority of the police officer(s) were respectful?
3. Looking back on this contact, do you feel the police behaved properly or improperly?
4. Do you feel that a majority of the police officer(s) were professional?

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<sup>75</sup> As opposed to the more cost effective CATI.

See Appendices II and III for the response numbers for each question. All responses that were not originally “yes” or “no” were excluded from study. Omissions include “don’t know” and “system missing” data entries.

As discussed earlier, data regarding the direct individual impact of discretionary decision making by street level bureaucrats is rare. When available, data more commonly measures policy impact in terms of a tangible external effect such as a raised test score or a higher unemployment rate. Instead the data presented in this chapter provide insight into policy impact in terms of an internal cognitive reaction to a bureaucrat and that bureaucrat’s behavior. These variables allow for the quantitative analysis of what people are actually thinking about a bureaucrat who is similar or different from them. Citizens’ attitudinal response is studied here by examining how citizens stopped while driving view the legitimacy, professionalism, respectfulness, and behavior of the involved police officer.

### **Independent Variables**

The primary variables of interest here involve the race of the stopping officer and the involved citizens. Because the surveys present individual level data, the citizen race information simply reflects if the respondent indicated they were black or not. It should be pointed out that the officer race variable information comes from citizen reporting, not actual police department records. This naturally will involve problems related to incorrect recall, inaccurate reporting, or misjudgment on race from the standpoint of the respondent. To create the officer race variable, if multiple officers were involved in the stop, then the majority had to be judged black for a positive response to be recorded. The interaction variable is coded positively when both the citizen and officer variables were both “1” responses. In line with past research on the issue, it is



expected that a black citizen will generally be less favorable in perceptions of police than a white citizen (Bayley and Medelsohn 1968; Boggs and Gallier 1965; Erez 1985; Frank et al. 1996; Hindelang 1974; Percy 1980; Scaglione and Condon 1980).

Age is included as a control variable with no expectation as to any significant predictive value. In past work, gender has come into play in the shaping of citizen perceptions on legitimacy of stops (Engel 2005; Theobald and Haider-Markel 2008). It is expected that males will be more suspicious of police action. Two mutually exclusive categorical variables for income were generated from the PPCS response data. It is expected that those with a self reported income below \$20,000 will be more suspicious of discretionary police action and those with a reported income over \$50,000 will be more accepting of the official behavior (ibid).

Perhaps counter intuitively, some past research has shown that citizen satisfaction with police stops does not vary with the decision to issue a ticket or not (Tyler and Folger 1980). But satisfaction has been shown to vary when a “satisfactory outcome” is considered in combination with perceptions of fairness and equality in the administration of justice (Tyler 2001). The 1999 PPCS data revealed that tickets mattered when questioning stop legitimacy (Theobald and Haider-Markel 2009), and the same result is expected here. Similarly, the discovery of criminal evidence is expected to reduce levels of citizens’ acceptance of a police stop (Engel 2005). Likewise, a count variable indicating the number of times a citizen reported being stopped in the last 12 months is included. It is expected that the more times a stop has occurred, the less accepting the citizen will be of the stop in question (ibid).

A categorical variable capturing the population size of the area in which the stop was made is included. It is expected that the larger the population of the area, the less trusting the citizen will be of police action (Haider-Markel, Epp, and Maynard-Moody 2005; Theobald and

Haider-Markel 2009). A further variable exploring the impact of social status is included in this study that was not in previous research. A variable for “work” is included which indicates whether or not the citizen was employed or not at the time of the interview. It is expected that those out of work will be less trusting of police behavior. The “number of vehicle occupants” variable present in study of the 1999 PPCS is not included because of lack of continuity in the data collection instrument.

**Table 1**  
**Likelihood that Citizens Believe Police Stop was Legitimate, 2002**  
**PPCS**

	Logit Coefficient		SE	Log Odds	
				Ratio	SE
Black Citizen	-0.640	***	0.125	0.527	0.066
Black Officer	-0.204		0.144	0.815	0.117
Black Citizen and and Officer	-0.012		0.284	0.988	0.280
Age	-0.004	*	0.003	0.996	0.003
Male	-0.209	***	0.079	0.811	0.064
Income \$0-20,000	0.047		0.097	1.048	0.102
Income over \$50,000	0.188	**	0.091	1.206	0.110
Ticket	-0.242	***	0.078	0.785	0.063
Evidence Found	-1.546	***	0.392	0.213	0.084
No. of Police Contacts	-0.159	***	0.030	0.853	0.025
Population	-0.061		0.048	0.941	0.045
Work	0.099		0.095	1.104	0.105
Constant	2.36	***	0.187		
Log Likelihood	-2299.777				
Chi-square	115.2				
Pseudo R <sup>2</sup>	0.02				
Observations	5370				

Note: \* Significant at 10%; \*\* Significant at 5%; and \*\*\* Significant at 1%  
(One-tailed significance for directional hypothesis)

**Table 2**  
**Likelihood that Citizens Believe Police Stop was Legitimate, 2005**  
**PPCS**

	Logit			Log Odds	
	Coefficient		SE	Ratio	SE
Black Citizen	-0.649	***	0.139	0.522	0.069
Black Officer	-0.191		0.139	0.826	0.072
Black Citizen and and Officer	0.121		0.361	1.128	0.407
Age	-0.008	***	0.003	0.992	0.003
Male	-0.216	**	0.086	0.806	0.069
Income \$0-20,000	-0.097		0.113	1.101	0.125
Income over \$50,000	0.038		0.034	1.038	0.035
Ticket	0.044		0.085	1.045	0.088
Evidence Found	-1.17	**	0.58	0.312	0.181
No. of Police Contacts	-0.128	***	0.031	0.880	0.027
Population	-0.141	***	0.05	0.869	0.043
Work	-0.092		0.11	0.912	0.099
Constant	2.51	***	0.207		
Log Likelihood	-1927.123				
Chi-square	73.11				
Pseudo R <sup>2</sup>	0.019				
Observations	4425				

Note: \* Significant at 10%; \*\* Significant at 5%; and \*\*\* Significant at 1%  
(One-tailed significance for directional hypothesis)

**Table 3**  
**Likelihood Citizens Believe Police were Respectful during Stop,**  
**2005 PPCS**

	Logit		Log Odds		
	Coefficient		SE	Ratio	SE
Black Citizen	0.181		0.101	0.695	0.160
Black Officer	0.211	*	0.211	0.881	0.150
Black Citizen and and Officer	0.402		0.402	0.677	0.272
Age	0.004	***	0.004	1.013	0.004
Male	0.112	***	0.101	1.126	0.114
Income \$0-20,000	0.131		0.131	0.990	0.130
Income over \$50,000	0.041		0.041	1.067	0.044
Ticket	0.105	***	0.105	0.678	0.072
Evidence Found	0.51	***	0.51	0.185	0.094
No. of Police Contacts	0.031	***	0.031	0.904	0.028
Population	0.062		0.062	0.965	0.059
Work	0.122	*	0.122	1.255	0.153
Constant	0.233	***	0.233		
Log Likelihood	-1465.458				
Chi-square	74.51				
Pseudo R <sup>2</sup>	0.025				
Observations	4526				

Note: \* Significant at 10%; \*\* Significant at 5%; and \*\*\* Significant at 1%  
(One-tailed significance for directional hypothesis)

**Table 4**  
**Likelihood Citizens Believe Police were Professional During Stop,**  
**2005 PPCS**

	Logit		Log Odds		
	Coefficient		SE	Ratio	SE
Black Citizen	-0.217		0.178	0.805	0.143
Black Officer	-0.460	**	0.209	0.632	0.132
Black Citizen and and Officer	-0.345		0.394	0.709	0.280
Age	0.010	***	0.004	1.010	0.004
Male	-0.047		0.104	0.954	0.099
Income \$0-20,000	0.155		0.131	1.168	0.153
Income over \$50,000	0.12	***	0.041	1.128	0.046
Ticket	-0.334	***	0.107	0.716	0.076
Evidence Found	-1.699	***	0.511	0.183	0.093
No. of Police Contacts	-0.118	***	0.031	0.888	0.028
Population	-0.082		0.061	0.921	0.056
Work	0.237	*	0.124	1.268	0.158
Constant	2.034	***	0.237		
Log Likelihood	-1425.082				
Chi-square	81.25				
Pseudo R <sup>2</sup>	0.028				
Observations	4527				

Note: \* Significant at 10%; \*\* Significant at 5%; and \*\*\* Significant at 1%  
(One-tailed significance for directional hypothesis)

**Table 5**  
**Likelihood Citizens Believe Police Behaved Properly During Stop,**  
**2005 PPCS**

	Logit		Log Odds		
	Coefficient		SE	Ratio	SE
Black Citizen	-0.566	***	0.158	0.568	0.090
Black Officer	-0.579		0.196	0.560	0.101
Black Citizen and and Officer	0.433	***	0.396	1.542	0.611
Age	0.004		0.003	1.004	0.003
Male	-0.11		0.101	0.896	0.091
Income \$0-20,000	0.115		0.128	1.122	0.144
Income over \$50,000	0.088	**	0.04	1.092	0.044
Ticket	-0.351	***	0.103	0.704	0.073
Evidence Found	-1.614	***	0.511	0.199	0.102
No. of Police Contacts	-0.122	***	0.031	0.886	0.027
Population	-0.118	**	0.058	0.888	0.051
Work	0.242	**	0.121	1.274	0.154
Constant	2.359	***	0.232		
Log Likelihood	-1501.856				
Chi-square	82.35				
Pseudo R <sup>2</sup>	0.027				
Observations	4523				

Note: \* Significant at 10%; \*\* Significant at 5%; and \*\*\* Significant at 1%  
 (One-tailed significance for directional hypothesis)

## Results

Logistic regression of the 2002 PPCS data indicate that black citizens are more likely to believe police stops are illegitimate. However, there is no statistical support for the notion that the interaction between citizen and officer race shapes citizen perceptions. The first column in Tables 1-5 presented above provides the logistic coefficient and the direction of the relationship between the variables in the model. Standard errors are listed in column two. For ease of interpretation, the log odds ratio is provided in column three for each variable, along with their standard errors. The log likelihood, Chi-Square, and Pseudo  $R^2$  reported are all typical of a logistic regression model and are quite similar to past work analyzing the 1999 dataset (Theobald and Haider-Markel 2009).

Tables 1 and 2 present the question of perception of legitimacy for 2002 and 2005. Age is shown to be significant at the 10% level (using a one-tailed test for significance) but not to a very strong degree. Males are less likely to believe police stops are legitimate, which was expected. People with an income over \$50,000 were more likely to indicate that a stop was legitimate, which is not surprising. Those issued a ticket, found possessing criminal evidence, and making more frequent contacts with the police were more likely to find a stop illegitimate. Table 2 demonstrates that side-by-side analysis of 2002 and 2005 yields fairly similar results on most variables. Higher income was no longer found to be a predictor nor was the issuance of a ticket. However, population in 2005 was a predictor, with a larger metropolitan area pointing to more feelings of police illegitimacy.

Tables 3, 4, and 5 show the results for dependent variables that were not used in the 2002 instrument. The models' reported diagnostic numbers are substantively the same as each other, as well as the work presented with analysis of the 1999 PPCS. There are some interesting results



reported regarding race that differs from the 2002 analysis and the 2005 question regarding “legitimacy.” Age was again found to be a significant predictor in the case of “respectfulness” but not in the matter of “proper” or “professional” behavior. Results for income and gender are mixed, with more consistent results found for questions that are more likely to reflect citizen behavior such as evidence found and number of police contacts.

## **Discussion and Conclusion**

The results for this study provide insight into the interaction between citizen race and the race of a street level unelected official. Only one of the five models showed the instance of a black citizen interacting with a black police officer to be a predictor of public attitudes. As the results in Table 5 indicate, if a black citizen interacted with a black officer that person more likely to think the police “behaved properly.” This highlights the value of the different dependent variables examined with the 2005 data. The four variables were legitimate, respectful, professional, and proper behavior. It could be that proper behavior, a question not asked in 2002, reflects the overall driver perception of police actions more than the other variables. In these cases, perhaps black citizens are willing to give a black officer “the benefit of the doubt” if the officer goes about business after even a frustrating stop decision is made in a straightforward fashion. Perhaps these same black respondents would not view a black police officer’s behavior as “professional” or “respectful” because they disagreed with being pulled over in the first place. However, once they were pulled over, the citizen then believed the officer “behaved properly.” More exploration is needed to distinguish between the finer points of citizen’s viewpoints on bureaucratic “professionalism” juxtaposed with proper bureaucratic behavior. As the PPCS

authors realized when they wrote the instrument, judgments on “professionalism” and general behavior are two different things.

Black citizens in both 2002 and 2005 were less likely to believe police behavior was legitimate (in fact this finding is almost statistically identical in the models). Blacks were also less likely to see the behavior of police officers as proper (see Appendices II and III for cross-tabulation of the variable data). However, citizen’s race did not come into play with judgments of “professionalism” or “respect.” Again, citizens separate matters of respect given by a police officer from attitudes regarding official behavior in a more general sense. Also note that an attitudinal question on “respect” is very different from most of the other questions on the NCVS instrument. However, officer race is a significant predictor of citizen attitude regarding respect. Black officers in 2005 elicited more feelings of “respect” but less of “professionalism.” One possible explanation is that a bureaucrat can convey respect to an individual but is not seen as occupying a professional space with legitimacy. This could be due to the historical lack of minority police officers until recent years.

Past research has indeed often found a link between descriptive bureaucratic representation and favorable policy outcomes for a minority group (Hindera 1993; Seldon, Brudney, and Kellough 1998; Thielemann and Stewart 1996; Thompson 1976). However, studies such as one using data from Texas schools that found a link between percentage of minority teachers and minority test scores (Weiher 2000) are not able to explore passive representation the way this chapter does. In the Texas research, it is not clear if minority teachers are simply teaching differently. A different pedagogical approach by African-American high school teachers would be a manifestation of the idea of *active* representation. There is no way to accurately discern from that research if minority teachers instruct systematically different;

or rather, are affecting the cognition and subsequent success of minority students just by simply existing as a minority teacher.

This study, by being able to single out whether or not a traffic citation was issued, can to a reasonable degree control for the effect of bureaucratic discretion. The minority status of an officer is therefore separated from police behavior. With that in mind, this study shows that passive and active components to bureaucratic decision making each have a role in how the officers are viewed by citizens.

It is interesting that the results for income and gender are mixed, indicating that these citizen characteristics are not stable predictors of attitudes toward the bureaucracy in the same way that citizen race is. Some past research has noted that men respond more negatively attitudinally to the police than women (Hindelang, Dunn, Aumick, and Sutton 1975), but these mixed results are consistent with past research on this question (Bayley and Mendelsohn 1969; Boggs and Galliher 1975; Davis 1990; Jesilow, Meyer, and Namazzi 1995). Similarly, results for the age variable were mixed, which is consistent with other past work as well (Bayley and Mendelsohn 1969; McCaghy, Allen, and Coffey 1968). Also, income and gender are not as strong of predictors as is the behavior of the officer in whether or not a ticket is issued. It is also worthwhile to recall that citizens answered the four questions in the 2005 PPCS differently. Unless one is to believe that respondents are answering survey questions in a haphazard manner, this indicates that they are considering different aspects of policing, such as proper behavior and the legitimacy of a traffic stop, as distinguishable from each other. These results point to the ability of survey opinion work to analyze police behavior with a precise instrument.

The recent National Race and Crime Survey (NRCS) demonstrated that African-Americans experience the criminal justice system in a very different way than whites do (Peffley

and Hurwitz 2010). African-Americans both experience the criminal justice system more frequently than whites and are more skeptical of it (ibid). While a broad systematic survey such as the NRCS has provided a strong foundation for exploring minority citizens' attitudes toward different policies, more targeted efforts such as the present one fill a different gap in the literature. It is necessary to have data on the outcome of a discretionary bureaucratic action to make statements about how individuals think about the actions of frontline government employees. Further research in this area will hinge on the collection efforts of the PPCS, which is conducted every third year and held by the government for a few years before its release.

It is expected that this study will be linked with ensuing work in the area of public perceptions of democratic representation. Mating the findings here with the surveys from 1999 and what emerges from the BJS later will provide a more robust study as the data grows. Important literature has recently emerged that is dealing with minority groups and their experiences achieving substantive representation in this country (Haider-Markel 2010, Peffley and Hurwitz 2010). Just as with studying legislative output, the careful exploration of survey data is an important piece of unlocking the puzzle of just representation.

## Chapter 3

Government is an abstraction. Public acts are carried out by men and women who agree, though various types of organization and contractual arrangements to serve their fellows. The particular kind of relationship called civil service has some symbolic and practical properties that are especially valuable for tasks that are difficult to arrange through the market.

- John D. Donahue  
The Privatization Decision

I have never yet found a contractor who, if not watched, would not leave the government holding the bag.

- President Harry S. Truman (speaking while a U.S. Senator)

## **Introduction**

Debate concerning which portions of government should be staffed and managed by public employees versus private employees has been one of the central currents of modern American politics and public policy. The core controversy of the issue centers on the use of public money. Advocates of privatization argue that there are potential cost reductions as well as local economic benefits that can be realized by shifting duties from government employees to privately owned businesses. Privatization is important to public management and, at times, widely salient. Despite this, public policy analysts have devoted relatively little scholarly attention to privatization, either in its Reagan heyday (Heilman and Johnson 1992) or more recently.

Previous research has focused on narrowly cast questions of administrative efficacy and efficiency. Questions of efficacy ask: does contracting at least minimally provide a particular service? Questions of efficiency ask: how much more or less does it cost to privatize a particular task? To illustrate the program specific nature of this research, consider the following studies: Who can most cheaply perform a municipal service (e.g. CSG 1999; GAO 1997)? Which type of firm is more profitable: public or private (e.g. Dewenter and Malatesta 2001)? And finally: How should contracts be drawn up between governments and private firms (e.g. Dyck and Wruck 1998; Hart 2003; Schmidt 1996; Unruh and Hodgkin 2004)? Indeed, the effectiveness of privatization often centers on contract design and monitoring, while cost savings centers on comparative advantages private firms might have over public service delivery.

This chapter does not look at either questions of contract administration or cost savings directly. Rather, it incorporates any tangible effects efficacy and efficiency might have into an economic impact study with broader implications. Therefore, this research effort is both more

unique and practically useful because it approaches the topic from the vantage point of a community or a citizen. It zeroes in on a single policy area, prisons, in order to study what impact a privatization decision has on a community's local economy. By focusing in on prisons, broad contextual effects of privatization can be incorporated into an orderly research agenda.

A careful analysis of the economic impact of prison privatization will be informative for students of other policy areas. Tackling just one privatization issue area at a time is more coherent than making overly broad statements about privatized services as a percent of GDP. It is a hard fact that limited aggregate data exists to provide even somewhat accurate estimations of the totality of privately provided government services. Such solid data is difficult to come by in no small measure because of the closed management environments of contracted firms. Any industry captured government bodies are equally unforthcoming.

While dealing with a criminal justice topic, this chapter does not address prison construction's effect on crime or blight. Again, it is an economic impact study. Personal income and unemployment provide a snapshot into how prison privatization impacts local economies. Putting a slice of a local economic pie under the scrutiny of a focused analytical microscope in order to learn about any system wide effects of a particular privatization program is a logical first step in learning about privatization's total impacts.

## **I. Prison Privatization**

### **Privatization and Politics**

Though economic concerns are critical to evaluating the quality of any public policy, sound research on privatization must also be capable of dovetailing with the study of American

politics at both the national and subnational levels.<sup>76</sup> Statements about any economic impact have not yet been connected in the literature with political concepts such as the adoption decision, interest group pressure, or policy drift. Perhaps this is explained by the attention focused on operational contracts that define the policy's implementation with legal specificity. Talking about overtly political matters is also made more difficult because of privatization's winding path through the United States (US) federal system. Private corporations that contract are not tied to operating in any single level of government or geographic area.

Privatization is best understood for what it is, a political phenomenon. It is more than a budgetary approach to policy implementation. It is more than a legally binding agreement between public and private parties. It is a complex policy choice as political as any other. Privatization's enactment is predicated upon political actors' notions of government service provision and political ideology, not cost concerns and localized economic benefits alone (Block et. al. 1987; Block 1996; Heilman and Johnson 1992; Lindblom 1984). Privatization properly understood occupies a place on the political left-right continuum of ideological positioning (see NES through 2004).

The economic thinking of a community's voters matters when political actors are considering privatizing. Voters do actually vote with economic information in mind (Keech 1995; Kiewiet and Rivers 1984; Kramer 1971; Lewis-Beck 1980, 1988; Norpoth 1984; Rogoff 1990; Suzuki and Chappell 1993; Tufte 1978; Weatherford and Sergeyev 2000). While some scholars believe they fall short of truly understanding the real state of the economy (Conover, Feldman, and Knight 1987; Delli Carpini and Keeter 1997; Fiorina 1981; Godbout and Belanger 2007; Goren 1997; Holbrook and Garand 1996; Krause 1997; Lupia 1994) others argue they are very capable of processing accurate economic data (Alt 1979; Chappell and Keech 1985;

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<sup>76</sup> Both in-the-electorate and in-government.



MacKuen, Erikson, and Stimson 1992; Mutz 1992). Whatever the case may be, voters take note of economic matters (Nadeau and Lewis-Beck 2001), and that has an influence on leaders' eagerness to privatize.

### **Prison Privatization as a Marketplace Good**

Though there is abundant past work on government service provision (e.g. Lowi 1972; Heckathorn and Maser 1990; Ripley and Franklin 1991) and other policy activity such as regulation (e.g. Gormley 1983; Tatalovich and Daynes 1998; Wilson 1980), there is no well received theoretical framework dealing exclusively with privatization. Such a framework would be contingent upon a sound understanding of market function, American state economies, and the public private distinction. With a risk of stating the obvious, understanding privatization as political scientists requires more than placing the idea within the field of applied economics in some varying degree of union with public administration.<sup>77</sup>

Privatization is the financial, legal, and policy process through which private actors assume service providing functions previously delivered by a publicly operated organization. Government workers who were paid a wage and supervised by a public agency are replaced with privately salaried and supervised workers.

To illustrate four types of good provision, Donahue offered the following figure in his book (1989, 7). His thinking, while not a developed theory, captures both service provision and funding. The examples are my own.

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<sup>77</sup> The best framework in the literature to date is Donahue's work (1989), though it is just a first step which stops short of developing a full framework or model of the policy. Notably, it is now twenty years old and has not been adopted as a springboard for further research.

**Figure 1**

	<b>Collective Payment</b>	<b>Individual Payment</b>
<b>Public Sector Delivery</b>	EPA Research  Non-Commercial Portions of NASA  VA Hospitals	National Park Service User Fees  USPS Stamps  Census Data Compiled for Research
<b>Private Sector Delivery</b>	Trash Disposal  Ancillary Military Functions  Private Prisons	(proposed) 401K Retirement Plans  Tax Preparation Services  Broadband Internet Access

This figure could be reproduced using examples from any one specific level of government, rather than the mix employed here. Its 2x2 form is simple, but it provides a parsimonious look at the issue.<sup>78</sup>

It is important to note that privatization in an international political economy context means something different than it does in the US, though some characteristics are shared. In comparative politics literature, it has often been taken to mean the selling of state assets to private ownership. Much of this work deals with former Soviet satellite states or newly liberal Latin American societies (Biais and Perotti 2002; Biglaiser and Brown 2003; Dlouhy and

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<sup>78</sup> For other breakdowns of the public/private dichotomy see Finley 1989, 6; Feigenbaum, Henig, and Hamnett 1998, 10.

Mladek 1994; Feigenbaum and Henig 1994; Hibou 2004; Jones, Tendon, and Vogelsang 1990; Korsun and Murrell 1995; MacLeod 2004; Ott and Hartley 1991; Ramamurti 1990; and Van Vugt 1997). As with matters within American political economy, variances in institutional structures affect market behavior and private firm's financial decision making (D'Souza and Megginson 1999). So, aspects of privatization efforts underway overseas are at least somewhat similar to those in the US, and there is an accompanying body of work that can be useful for students of US politics. For a comparative study of postal delivery privatization see Crew and Kleindorfer (2008).

Prisons, whether public or private, provide a service. How that service being provided is conceptualized and defined has a direct bearing on how prisons should be analyzed. They can be thought of as providing a space to confine convicted criminals, or they can be thought of as providing public safety more generally. Under the first conception, the market is for guarded cells in mostly cinder block buildings surrounded by razor wire. The direct cost for this is concretely, and rather easily, measured in terms of the per diem cost to house an individual prisoner. Costs that are often overlooked include such items as the construction cost of the building and the expense of running water and septic lines to it. An additional layer of hidden costs also exists that includes items such as the reduced income tax revenue stream, increased litigation expense for prison mishaps, contract oversight cost versus bureaucratic management expenses, and increased community policing rates caused by a new prison and the rise of so called "prison communities". Another downstream cost to a community might be a rise in unemployment benefit expenses caused by firing municipal prison guards in the name of a lower, and much more visible, per diem rate. All of these components of the cost formula have a direct bearing on any realized local economic impact.

However, perhaps the good offered up by a prison is not just the service of incapacitation by way of prison cells, but rather the communal safety or peace of mind caused by that. This is analogous to conceptualizing national defense as a public good. Thought about this way, a real or imagined sense of safety is the market good and a prison cell is just a tool constructed to realize it.

Prisons provide this good, be it thought of as cells or “public safety” through a market mechanism. When a prison is constructed, there has already been a decision to achieve the good of public safety in a particular way: the operation of guarded cell blocks to house criminals. The market is thus a prison market, albeit one without anything approaching perfect competition. The construction of a prison is a significant barrier to market entry and not just because of high construction cost. Laws prevent the completely free entry of a new prison, and by extension, a new prison firm, into the market. Indeed, firms hoping to operate a prison must lobby for and achieve the approval of government officials. This is not a more freely operating retail market for a good such as toys or watches, or even a heavily subsidized commodity market like the ones for sugar or corn.

The behavior of marketplace competitors is shaped by the nature of the prison market itself, which includes the actions and motives of relevant principles and agents to carceral transactions. The principal agent problem is driven by the fact that an agent has a specialized ability to serve a principals’ objective, but the agent has conflicting incentives and thus the agent’s efforts can’t be monitored (Haugen and Senbet 1981; Pratt and Zeckhauser 1985). In this case, the question arises as to who is the principal and who is the agent? The identification of these actors is critical to discovering motivations in marketplace behaviors. Three reasons emerge as to why motivations, shaped by incentives, are important in principal agent

relationships: goals can be divergent between *P* and *A*, information asymmetries can exist, and there are commensurate costs associated with verifying performance (Zou 1989). This is not a problem unique to the prison market. Public administration literature has long coped with the necessity of identifying just who the principal is in a complex political environment (Lane 2005). It is an existing research complexity to synchronize the notions of a simple marketplace buyer-seller dyad with knowing who the customer is in a democratic hierarchy (e.g. Waterman and Meier 1998; Wood 1988).

In this instance, the government officials are simultaneously serving as principals and agents. City managers and prison bureaucracy employees are both working for the public at large and potentially competing with firms they oversee. These public employees (or elected politicians) are sandwiched between citizens and profit seeking companies, a situation not unique to prisons. As bureaucrats and politicians, they seek to operate in their own best interest while also serving their public (Barro 1973; also see Maynard-Moody and Musheno 2000). Operating only as agents are the contracted prison firms, who are filling a clearly defined role for a charged cost.

### **Subnational Politics and Privatization**

Subnational American governments have turned to privatization of public services for a variety of reasons. It is valuable to know why privatization is initially brought up as a policy option in order to soundly evaluate ensuing policy outcomes.

Before examining this issue more closely, a term tied to it needs explanation. In the debate upon privatization, the term *public* service could be construed as a loaded phrase. The ontology of public service is intertwined with the increasing demands placed upon government

by American citizens (Sharp 1990). What is now seen as a public service might have been seen as a private concern in a different era. For example, demands placed on community school systems change with time. Primary and secondary education is a private good that citizens' taxes subsidize by either providing a school or an educational voucher. The desire for a certain type of education changes with the existing job market faced by citizens.

In an ever more varied governmental landscape, alternative service delivery has sprung up as a way for bureaucrats to create acceptable policy output for its citizens (Finley, 1989). Such diverse programs as contracting, self-help, vouchers, subsidies, franchise concessions, volunteer work, and tax incentives could help governments lower cost and still deliver services to citizens (Manchester 1989, 15-19). Many of these relatively new ways to deliver public services are forms of privatization. More broadly speaking, these alternative service delivery methods are also called public-private partnerships (Heilman and Johnson 1992).<sup>79</sup>

Besides growing societal complexity and change, there has been political pressure from conservative interest groups and conservative politicians who embrace privatization *per se*, particularly since the Ronald Reagan presidential administration. Ronald Reagan's first official act as President was his January 20, 1981 freeze on all federal hiring (Tygiel 2006). Subnational policymakers in turn took cues from him. Reagan created a movement parroting a British government that had sold off the publicly held British National Oil, Cable and Wireless, British Aerospace, Associated British Ports, Jaguar, National Freight Consortium, and Amersham (Kent 1987, 13). The re-allocation of government work to private firms has been seen as a solution by Democrats and Republicans alike. Recent history saw the booming 1990s elicit the Clinton Administration efforts to privatize government, which was part of their drive of "reinventing" it (Gore 1996). Vice President Gore headed a task force that looked deeply into matters of

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<sup>79</sup> For a review of the multiple meanings of "public-private partnership" see Linder 1999.

privatizing the bureaucracy (Gore 1993). More recently, the 2008-2009 economic downturn has privatizing interest groups, such as the Association of Private Correctional and Treatment Organizations, touting the cost savings offered by their efforts (APCTO 2009).<sup>80</sup> Under President George W. Bush, private defense contractors such as Halliburton and Blackwater made headlines in Iraq (Schahill 2007), while social security privatization made political waves domestically (Beland 2005; Edwards 2008, 247-312).

Proponents of privatization often tout cost savings. They argue that government employees lack incentives to save money and work efficiently; they claim that a private business will be more likely to spot waste and make sure work is completed in a timely way as inexpensively as possible: “When the economy sneezes, the states catch cold. At the same time as revenues constrict, the pressure for additional social services, especially public welfare, increases” (Wulf 2002, 273). In recessionary quarters as experienced in the late 1970s thru early 1980s and again after the September 11, 2001 terrorist attacks, some states have turned to privatization as an alternative to higher taxes:

The economic-political aspect for states is the difficulty in raising additional revenues to cover shortfalls. From an economic point of view, that action might not be wise because it could deepen a recession. *But even if they were so inclined politically, raising taxes is an extraordinarily difficult thing for states to do.*

(Italics added)

[Wulf 2002, 273]

In order for states to provide services without raising taxes, their publicly elected custodians explore under the radar approaches which give them the ability to meet budgetary demands.

Voters do not want to give up services, but they also do not want to pay more for what they get.

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<sup>80</sup> According to the APCTO website, “Taxpayers can enjoy significant savings by utilizing public-private correctional partnerships to design, finance, build, and operate prisons, jails, community corrections facilities, and juvenile justice programs. These savings are derived from a variety of benefits offered by privatization and are documented by numerous independent research studies.” Their references for this statement are found on the same website.

“More taxes for few services!” (Savas 1992, 2), an early 1990s New York Senate Advisory Commission Report exhorts.

Later in this chapter, it will be shown that many subnational governments extend the cost savings arguments right into rhetoric about economic improvement. In other words, a private firm is said by advocates to both cost less and be able to provide a localized benefit such as more jobs for citizens. A localized economic benefit from a new prison could exist. If it does, it would have to be because of one of two components of economic effects: direct or indirect (Crompton and McKay 1994). Direct economic effects include the initial injection of money caused by prison construction and local industry purchases. Indirect economic effects, also called successive effects or induced effects, is the spending that comes later in the form of increased government revenue, continued local industry purchase, or subsequent increased local household purchasing.

The final reason why governments look to privatize part of their bureaucratic fiefdoms is a highly understandable one: they are told to by a judge. Prisons were poorly run in the 1970s and 1980s. Prior to a late twentieth-century prison reform movement, many prisons suffered from overcrowding, inmate on inmate sexual and non sexual assault, abuse by guards, gang problems, illegal drug problems, and administrative corruption. Federal judges ordered some prisons to be shut down because they violated the cruel and unusual punishment provision of the Constitution (Robbins 1986).

### **The Untidy Birth of Prison Privatization**

The politics of prison privatization cannot be understood apart from the experience of the Corrections Corporation of American (CCA). Founded in Tennessee in 1983, the CCA grew out



of a cooperative relationship between business entrepreneurs and government officials, most of whom were active in the Republican Party.<sup>81</sup> The backdrop to the scene is economically depressed<sup>82</sup> 1980s Tennessee. The Volunteer State would serve as the potential first customer to the creative drive of certain enthusiastic financiers. Well-connected and well-heeled individuals would come together to form a new answer to the question of the state's ailing penal system. CCA was founded and established in 1983 by Tom Beasley, a former chair of the Tennessee Republican Party (Schneider 2000, 203); Doctor R. Crants (Doctor is his legal name, not a title), a banker and financier (Schneider 2000, 203); and Don Hutton, the former head of the American Correctional Association (Schneider 2000, 203-204).<sup>83</sup> Venture capitalist Jack Massey, known for building Kentucky Fried Chicken into a fast food powerhouse (now known as KFC), backed the venture. Massey, while developing the Wendy's hamburger chain and while taking "Colonel Sanders" onto the New York Stock Exchange, would form Hospital Corporation of America<sup>84</sup> with Republican Senator Bill Frist's father (Cumberland 2005). Political connections did not stop with these four individuals: "Several high-ranking political officials in Tennessee owned CCA stock, including Honey Alexander (wife of the Governor, Lamar Alexander); the state insurance commissioner, John Neff; and the Speaker of the House of Representatives, Ned McWherther" (Schneider 2000, 204).<sup>85</sup> Soon this group of investors would receive a court decision to bolster Governor Alexander's intent.

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<sup>81</sup> Though the convict lease system flourished in the south from post civil war years to the late 1920s (Kahn and Minnich 2005, 73-77; Sarabi and Bender 2000).

<sup>82</sup> In 1985 Tennessee had an 8% unemployment rate, .8% higher than the national rate (BEA statistics). It taxed at a rate of \$996 per capita, compared to KS's \$1357 (DOC). The state's personal income was \$12,297 as compared to KS's \$14,451 (BEA statistics).

<sup>83</sup> The ACA was in 1985, and still was in 2009, the primary accrediting body of prisons in the United States (ACA).

<sup>84</sup> HCA is the nation's largest for profit hospital chain.

<sup>85</sup> Honey and Lamar Alexander divested themselves of CCA shares in 1985 to "avoid conflict of interest ((Schneider 2000, 204)".

State legislators however set the stage for this action from the bench. The Tennessee statehouse was the real prime mover on state prison privatization. Judges and juries do issue particular sentences, but existent statutory guidelines set the range of prison stays. State level office holders in 1980s Tennessee were in a particularly unforgiving mood. The Nashville statehouse was handing down increasingly strict sentencing guidelines, which contributed to overcrowding.

Poor prison conditions in Tennessee drew the attention of the federal district courts. Inmates argued that their right to be protected against “cruel and unusual” punishment had been violated. In October 1985, a U.S District Judge ordered Tennessee to reduce its prisoner population from 7,700 to 7,019 (*Grubbs v. Bradley* 1985). This order was issued because “In 1984 Tennessee had the dubious distinction of having the highest rate of violent inmate deaths of any state in the union”, which was representative of the state’s prison crisis (Folz and Scheb 1990). CCA developed the following plan: they would take over the entirety of the state’s prison system and pay Tennessee \$100 million while making a \$250 million investment in facilities. In turn, the corporation would receive an exclusive 99-year lease on the state prisons and would receive \$170 million a year from public coffers, which happened to be exactly the size of the current state budget for prisons (Schneider 2000). In the end, interest groups such as the Tennessee Bar Association, the Tennessee State Employees Association, and the American Civil Liberties Union lobbied and prevented this “radical proposal” from becoming law (Folz and Scheb 1990, 100). Labor unions in particular would prove to be a worthy adversary to the forces of privatization (AFSCME 2005; Hart, Shleifer, and Vishny 1997, 1146).

While in theory privatization would invoke market principles to reduce cost and improve the quality of service, the implementation of privatization in Tennessee went in a different

direction. Thus, though the company lost its bid to take over the entirety of the state's system, CCA did begin the operation of a single county prison in Hamilton County, Tennessee. They went on to win Bay County's Florida county's bid and then later their first two individual state level contracts in 1987 (Tennessee and Texas). Over the next few years stretching into the early 1990s, the company not only survived, but grew significantly. In fact, in the mid 1990s, CCA tried again, and failed again, to take over Tennessee's entire carceral system. CCA would go on to command a 52% market share by 1996 and would acquire competitors Concept Inc. in 1995 and U.S. Corrections Corp. in 1998 (Mattera and Khan 2001, 1-3). By this time, the industry had grown from a fantasy of a handful of connected venture capitalists into a billion dollar plus establishment. See Appendix VIII for a list of CCA operated American facilities in 2005.

### **Prison Privatization Today**

It is well known among criminal justice scholars and field practitioners that the US locks up a greater percentage of its citizens than any other nation offering reliable statistics.<sup>86</sup> The incarceration rate of the US in 2001 was more than ten times greater than many countries in the industrialized world and significantly higher than countries with voids of personal freedom such as Singapore and Belarus (DOJ; Gottschalk 2006). The American statistics on incarceration rate were relatively close to the rest of the globe until the early 1980s. Since that time, the population of people locked up has grown exponentially (Abramsky 2007; Bosworth 2002; DOJ 2009). Today one in 31 adults in this country, or about three out of every 100 citizens, are in jail or prison, on probation, or on parole (BOJS 2009).

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<sup>86</sup> Some less developed countries such as Eritrea have turned themselves into gulag-like nation states but not surprisingly, fail to provide reliable statistics on this.

It was in the early 1980s that a number of factors converged to create what one political scientist has dubbed the “carceral state” in America (Gottschalk 2006). Gottschalk examined different theories for the explosive growth in American imprisonment. She begins her book by looking at the growth of the illegal drug trade, the politicization of law and order by elected officials, cultural shifts, public opinion change, and the private prison industry as drivers of a high incarceration rate. She dismissed these in turn as not being as powerful explanatory factors as the combined role of interest groups and social movements within the American political-institutional context.

Employing the guiding framework of American political development, Gottschalk notes that private prisons number under 150 and that they are not the causal drivers of the high rate of lockup. Rather, these private institutions are byproducts of other processes. In particular, she points to the law and order faction of society working in conjunction with victim’s rights and anti-rape or women’s groups as the causes of the high rate of incarceration. Gottschalk is correct in her assertion that a relative handful of private companies are not driving the high lockup rate, a rate that soars greatest among drug offenders and African-Americans. As in other areas of privatization, each operating within its own issue network, prison companies are taking advantage of the business environment with which they have been presented. They need not be especially resourceful policy entrepreneurs to aggressively pursue the low hanging fruit generated by America’s broader desire to jail people. While they certainly benefit financially from harsh sentencing measures, they should not be seen as drivers of the American carceral state. Rather, they are along for the free ride until they are kicked out of the car.

Privatization in any given arena is both a business venture and a public policy. One man’s profit is another man’s tax dollar. The published business analysis concerning

privatization is usually focused exclusively upon financial information. There are corporate reports and investment analysis, but this information is of limited utility in a policy study concerned with the public good. Put another way, the business literature often focuses on the firm's health because of the effect of the greater environment, rather than on the greater environment's health because of the effect of the firm. It is through public policy impact analysis that the most critical questions regarding privatization's effect on all of the community should be asked, but they often have not been asked.

After years of glowing reviews from financial sources, the industry still only housed about 6% of the aggregate U.S. inmate population. This had not become the industry dreamed up by prison privatization advocates in the early 1980s. The one time chairman of CCA who concluded, "Privatization may therefore be the spark not only for increased efficiency at the individual facility level, but also for the creation of a Pareto-efficient and perfectly competitive market" (Crants 1991, 58), was no longer at the company's helm. Charles Thomas, the professor at the University of Florida, who founded the often-cited Private Corrections Project and cranked out pro-industry articles and quotes was found to have been a paid board member of the CCA Prison Realty Trust (Freidman 2003a, 154-155).<sup>87</sup>

Critics of the US penal system have complained that prisoners are badly treated and pointed to high recidivism rates as evidence of the failure of the system. Some argue that these problems are worsened when the prison is administered by a private firm. The treatment of prisoners by guards (Greene 2003; Mattera and Khan 2001, 5-6), the lack of transparency in prisoner treatment issues when compared to public facilities (Herivel and Wright 2003), the prisoner performance of labor for which the prison company is compensated, the unjust denial of

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<sup>87</sup> Professor Thomas resigned after having been discovered to have received industry grants totaling over \$400,000, calling into question his prior research.

convict release by profit motivated companies (Freidman 2003b, 164-165), the legal questions concerning inmate protection lawsuits typically filed under federal civil rights statutes,<sup>88</sup> and the treatment of juveniles by privately employed guards (Friedman 2003c, 148-153) are perhaps meritorious (Kahn and Minnich 2005, 77-87) but outside of the scope of this study.

Furthermore, data is difficult to gather on these topics, a point that raises its own questions about the industry. One legal scholar asked: Who will be responsible for maintaining security if the privately paid personnel go on strike? Will the company be able to refuse prisoners with AIDS? What will happen if the private prison company declares bankruptcy?<sup>89</sup> Is the state potentially liable for the actions of private contractors? (Robbins 1986).

The study of a policy subsystem can begin with a number of different topics, such as policy adoption, entrepreneurship, and subsystem membership. The first step, though, is to get at the heart of the matter by examining how private prisons impact the communities in which they operate. The question this chapter poses is: do private prisons provide an economic benefit or do they not?

## **II. The Economic Focus of Prison Privatization**

I feel it's going to be a win-win situation for Perry County and the State of Alabama...It will provide about 140 jobs for the area. That's going to make a big difference. I believe it will altogether change the economic base for our county.

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<sup>88</sup> Federal Civil Rights Act, 42 U.S.C. Sec. 1983

<sup>89</sup> All business involves risk, and despite the constant supply of prisoners, this industry remains more so than most. For example, CCA made the speculative decision to complete construction on the 1,524 bed Stewart, GA prison facility though it has no prisoners earmarked for being held there. The company stated in their annual report that they "can provide no assurance that we will be successful in utilizing the increased bed capacity resulting from these projects (CCA 2003)".

- Perry County, Alabama ,County Commission Chairman Johnny Flowers  
(Matthews 2006)

Despite a few high profile public prison system meltdowns such as in Tennessee, private prisons are generally not making up for an inability of public prisons to hold convicts reasonably well (CA DCR 2009; Camp 2002; MO DOC 2006; VA 2009). It is accepted and popularly known that public prisons offer inferior medical services than that available to the free public (Robbins 1999), and that they suffer from issues such as illegal drug availability and sexual violence (Earley 1992; Florida DOC 2007; PL 108-79 Prison Rape Elimination Act of 2003). In spite of notable problems such as these, this nation does continue to build a sufficient number of competently staffed and reasonably well managed public prisons within both federal and state justice bureaucracies (Bosworth 2001; Bureau of Prisons 2009; e.g. West Virginia 2008).

Of course, prisons are no more built to benefit prisoners than Burger Kings are built to benefit fast food junkies. There is a minority of people whom private prisons are truly built for, the prison company's investors, whose motive is moneymaking. They are in it for the profit to be had from the provided service. To put yet a finer point on it, those providing the service are in it for the money that comes directly from taxpayers. If it was not for the profit, they would not be motivated to build prisons. The very different yet symbiotic motivations are highlighted by this statement:

CCA has been a strong community partner with Eloy since 1994, when the Eloy Detention Center opened here. Over the past several years, we have welcomed three more CCA facilities in Eloy. CCA has brought nearly 1,500 new jobs to Eloy through these facilities. This is no small feat for the job growth and economic development that Pinal County is experiencing.

Eloy, Arizona City Manager and Community Development Director Joseph A. Blanton said this in cooperation with CCA. It was posted as part of a public relations effort on the company's website.

Like two bugs circling each other in an awkward mating dance, the private prison industry and bureaucratic carceral agencies engage in odd and ritualistic behavior to court each other.<sup>90</sup> What makes it ritualistic is its similarity to the public-private partnerships contained in other policy subsystems. In essence, prison privatization can be studied systematically right next to other privatization industries, such as trash pickup and city airports. Private prison companies sell themselves and public agencies try to lure them further in with promises of profits and longevity (Kolbert 1989). What makes prison privatization odd is the utter strangeness of a game of mutual persuasion whose preferred outcome is the construction of what many would consider a blighted project, or at the very least an eyesore.<sup>91</sup> Quite proudly it would seem, Leavenworth, Kansas' Convention and Visitors Bureau has used the travel slogans "How 'bout doin' some time in Leavenworth?" and "You don't have to be indicted to be invited". A local sandwich shop in Tamms, IL celebrated their new prison by renaming its specialty dish the "supermax burger" (Gottschalk 2006, 29).

Counties and state politicians are attracted to the private prison companies for the possibility of economic development (Hooks et. al 2004). The Director of the California Department of Corrections said, "Prisons are like military bases, a steady source of income and employment (ibid)". On the other coast, New York Corrections Commissioner Thomas

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<sup>90</sup> It should be noted that Beeville, Texas Chamber of Commerce representatives actually dressed as bees to make their pitch to a local administrative board (Deitch 2004).

<sup>91</sup> There is not an abundance of literature addressing the impact prisons have on local crime, though there is a very real stigma of a town being a "prison town", such as Leavenworth, KS. The few studies that have been done show little dispute over prison construction having a negative effect on property value or crime rate (Abrams and Lyons 1987; King, Mauer, and Huling 2003, 12).



Coughlin said, “Prisons are viewed as the anchor for development in rural areas” (Smith, 1990). Experts on incarceration note that officials see prison construction as a way to perk up their local economies (Brooke 1997; Gottschalk 2006, 29). “So many communities very, very much want them, and it is clearly a factor...they will tell their legislator, ‘You get me a prison’ said New York State Assemblyman Daniel Feldman (Metzgar, The Times Union, 1996)”. He went on, “This is quite the opposite of a ‘not in my backyard scenario.’” Because of the depression of agrarian and oil economies, small towns in rural America have looked strongly at playing this game of speculative prison construction (Kahn and Minnich 2005; Kilborn 2001; King, Mauer, and Huling 2003). Shelby County, Montana School Superintendent Matt Genger said nearby Crossroads Correctional Center’s 180 employees “are a definite plus for the school district (Johnson 2009).” The same small town newspaper article quotes the town medical center’s CEO Mark Cross touting the merits of the new prison: “Crossroads Correctional Center has been a good *business partner* (ibid, emphasis added)”.

The *New York Times* has chronicled the exploits of upstate New York politicians working to land private prisons in their communities to help ailing economies. Roger E. Poland, Town Supervisor of Chesterfield, New York said, “A business comes and in a year or two it can’t support itself and bang – it’s gone. A prison in contrast is something you know is going to be here for a long time (Kolbert, New York Times June 9, 1989, A1)”. Johnstown, New York Supervisor Richard Smullen told a reporter, “We’ve been trying to get a prison built here for years. It would bring a lot of jobs, and that would be pretty nice for the town (Hernandez, New York Times, February 26, 1996, A1)”. In the same article, Altamont supervisor Dean D. Defebvre said, “There’s much more competition today for a prison than there was a few years ago because of the economy. But we’ve been after a prison a lot longer than anyone else and

have the best site”. Citizens quoted in the articles have been presented as more ambivalent. One said “[Prison employees] They’re solid taxpayers. They will buy homes and shop at our stores. They’re the kind of people we need around here. So it’s probably worth putting up with the undesirables” (ibid). A later *New York Times* article looked at former mill town and current prison town, Cape Vincent, New York. By 2001 (pre 9/11), prison populations were seen as holding steady or declining nationally. The reporter focused on the employment plight of former industrial workers who had turned to lives as corrections officers. Michael Jacobson, a John Jay College criminology professor said, “Regions and towns that have based their whole economies on prisons are going to be confronted with some really serious problems (Rohde, New York Times, August 21, 2001, A1).”<sup>92</sup>.

Later *New York Times* articles captured the same phenomenon of rural development using prisons as tools in Colorado and Oklahoma. While noting the muscle of federal prison money in Colorado, the reporter denotes a list of towns making use of both privately and publicly run facilities for economic growth (Brooke, New York Times, November 2, 1997, A20). Four years later, in 2001, Sayre, Oklahoma city manager Jack McKennon said, “In my mind there’s no more recession-proof form of economic development”. McKennon had persuaded CCA to put a private facility in his town. Since the prison was located there he noted that his salary has doubled and street improvement efforts have improved. He added, “We wouldn’t have got the Flying J without the prison (Kilborn, New York Times, August 1, 2001, A2)”.

Evidence of public officials seeking private prisons extends beyond the front pages of the *New York Times*. Cibola County, New Mexico County Manager Joe Murietta said, “It’s terrible to say, but prisoners and trash are big business (Oswald, The Sante Fe New Mexican, January 27,

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<sup>92</sup> Jacobson is a noted criminologist at the City University of New York who has studied prison downsizing and parole.

1996, B3)”. When the oil boom collapsed in Oklahoma, the town of Hinton raised \$24 million to lure a for-profit prison. “The only reason in the beginning was to create jobs. We never considered how much we might actually make”, said Ken Doughty, vice-chairman of the Hinton Economic Development Authority (Hoberock and Branstetter, Tulsa World, December 13, 1999). Alexander County, Tennessee commissioner Joel Harbison made landing a prison larger than Alcatraz one of his campaign pledges. He got his new prison but angered voters with its construction and was voted out in 2002 along with another prison backer (Mitchell and Harbison 2004). In order to win the prison the state gave the county 25 acres behind an older prison for erecting “Al-Co-Traz” (ibid).

The benefits offered to prison companies include free land, farmland that can be used to generate further corporate income, road construction, new airplane hangars, administrative housing units, and communications infrastructure improvement (Ammons, Campbell, and Somoza 1992; King, Mauer, and Huling 2003). Financing for prisons has been provided by government in the form of industrial revenue bonds, a rarely understood and risky use of taxpayer’s money (Abramsky 2007<sup>93</sup>, 101; Mattera and Khan 2001). These are not passive efforts to dole out benefits, either. Government officials will wage lobbying campaigns to get their prison (e.g. Hernandez 1996). “What we’ve seen in New York and other states is that one prison led to another prison and led to another prison, creating the notion that there’s no other economic development option than to build prisons to foster stability in rural areas”, said New York prison consultant Tracy Huling (Santos 2008, New York Times, 25).

It is hard to force the willing into what they would otherwise do themselves however, and by every measure the prison industry corporate lobby is at least as willing to seek prisons as

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<sup>93</sup> Pecos, Arizona was a busted oil town in Reeves County. County officials issued \$90 million in bonds in a county with a \$5 million annual budget. The motivation for luring private prison contractors was economic development (ibid, 100-104)

the government lobby (Sarabi and Bender 2000). “The community is knocking on our door...It used to be ‘not in my back yard’. Now, they want it in the front yard”, said CCA Vice-President of Operations Jimmy Turner (Erskine and Graham 2000). The advocacy group, The Western Prison Project, has tracked the millions of dollars flowing from prison companies to political campaigns in the American west (Western Prison Project 2009). Part of the corporate strategy of prison companies is to lobby government for their services, not to just sit around and wait (CCA 2003, 2006, 2007).<sup>94</sup> The CCA website includes an economic report prepared by Elliott D. Pollack and Company that espouses the positive fiscal impact upon Arizona by new private prisons (CCA 2010).<sup>95</sup> Companies such as CCA are not in business to stagnate but rather to grow.<sup>96</sup> Once they have taken root in a local community, they continue their lobbying effort through such tools as community relation committees composed of local leaders (CCA 2005).

### **III. Methodology of the Study and Hypothesis**

#### **Population Studied and Sampling**

This study uses data spanning from 1979 until 2005. The number of people in prison is a moving target for study. Taking 2001 as a snapshot, there were approximately 1.7 million people in prison or jail in the US (Austin 2001, x). This same DOJ study states that, “The estimated 116,626-bed capacity of private correctional facilities makes up less than 7 percent of the U.S. market”. Building private prisons is often a speculative business. Capacity to hold

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<sup>94</sup> CCA’s 2007 Annual Report states: “Forecasts for inmate population growth remain strong throughout our markets. We also believe our future growth will be driven by the compelling value and flexible solutions we offer our government partners as they face budgetary constraints due to a slowing economy”.

<sup>95</sup> For a lobbying pitch which leaves out regional economic impact see MTC’s at <http://www.mtcprisons.com/institute/publications/Privatization%20in%20Corrections-Final.pdf> (June 1, 2010).

<sup>96</sup> Avalon’s business strategy is designed to elevate the company into a dominant provider of community correctional services by expanding its operations through new state and Federal contracts and selective acquisitions (Avalon 2007).

prisoners must exist before prisons can begin receiving inmates. Therefore, the average daily population held is typically different than the number of available beds (CCA 2006). When the stated bed capacity of private prisons is not counted, but rather the actual number of prisoners housed in them is, the share dropped to about 6.5 percent of the 2001 total (Austin). In 2003, 95,522 inmates were housed in private facilities, indicating a slight increase over the 93,912 housed in private facilities in 2002 (DOJ 2004). These people were housed in 118 private jails or prisons spread throughout the country (Refer to Appendix IV for the 2002 list of contracting state agencies).<sup>97</sup>

The companies owning or operating these prisons range from organizations that run a single detention facility, to industry leader CCA, which runs 65 facilities (CCA 2007). Gathering the most current data on these private prison corporations is akin to drinking out of a fire hose. The semi-public environment in which they conduct business sometimes documents them as heroic problem solvers (as in during a budget crunch), and sometimes as inept robber barons (as in after a prison disturbance or cost dispute). The dizzying combination of elected officials possessing variant support levels, hostile advocacy lawyers, the ever disappearing investigative local media, skeptical academics, eager investors, courts, taxpayers, and diverse interest groups that compose this issue network lends itself to providing a volatile information environment regarding the profit-seeking corporations. Further, since the rise of this industry in the 1980s, the larger companies have grown by continuing to swallow up the smaller companies, as has been the case with CCA (Mattera and Khan 2001, 3). Further complicating matters from a data gathering standpoint is that many states export their prisoners for incarceration in other parts of the country. Thus a particular prison might not hold prisoners solely from the surrounding

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<sup>97</sup> The Corrections Yearbook was last published in 2002, which is why this year of the study was selected rather than the latest one modeled: 2005.

communities, but instead could be charged with the keep of individuals from out of state and even quite often out of the country. This muddies the waters of any local economic impact regarding a higher local incarceration or crime rate.

The state that contains a private prison provides a poor unit of analysis because of numerous economic complexities that would dilute the effect of a single correctional institution--or for that matter, a handful of them (Brace 1991, 1993; Feiock 1991; Fosler 1988; Helms 1985; Jones 1990; Turner 2003). Likewise, cities make poor objects of study in the question at hand because of their greatly divergent size and the fact that many private prisons are located in distant rural areas. Also, data available is more limited for metropolitan areas, and makes a weak unit of comparison across the universe studied. Des Moines, Iowa is quite different from Atchison, Kansas or Phoenix, Arizona.

The choice then becomes the selection of a unit of analysis that is the best available. In that vein, the best unit of analysis is the counties that have a prison located within their borders no matter the jurisdiction of the agency housing prisoners there. This puts the focus of the study on the macro-level economic effects of the policy, rather than on the ins and outs of a certain way of operating a jail or prison. Due to the rural slant of modern prison construction, counties that hold prisons are more alike than cities and states that hold prisons.

In an earlier version of this study, only prisons operated by CCA were used as a representative sample from the greater body of private prisons. Of the private prison operators, CCA had (and continues to have) the most information publicly available regarding its operation. This could be due to its multi-jurisdictional business, its sheer size in terms of capacity and prisoners held, CCA's more developed web presence, and its robust annual reports to shareholders. Several other prison companies are publicly traded, thus falling under the same

SEC disclosure laws that CCA abides by (e.g. Cornell Corrections Inc., Wackenhut). However, the public information available from these firms is more minimalistic than from CCA.

According to CCA's 2003 annual report to shareholders, titled "Leading the Industry for 20 Years," the company was operating over 50 percent of the country's private prison beds and overall was "the sixth largest prison operator in the United States". More recently, in 2007, their 77,000 beds with 74,000 inmates made them the fifth largest prison operator in the nation.<sup>98</sup>

Because of the sample used for study, this dissertation chapter is more comprehensive than my earlier research effort in two ways. First, the present study builds on the earlier work by studying the entire universe of private prisons. (See Appendix V for a complete list of facilities studied in this universe). The information from this list was compiled by the author from a variety of sources ranging from individual state correction department websites to newspaper accounts and advocacy groups. Thus, CCA is now not the sole object of study.

While it is certainly interesting and worthwhile to learn how counties benefited or suffered from the construction of a private prison, it makes a richer study to compare those counties that had a new private prison located in them with a subset of counties who have a public prison located in them. In that way, statements can be made about the effect a private prison has as compared to the effect a public prison had. Differences between the two's economic effect can be spotted. The question, "Would this economic effect hold for any prison, whether public or private?" is answered.

Another subsample has been added to this study, and that is a subset of counties that do not have prisons at all contained in them. Sampled counties included with no new prison construction serve as a control group. In this way the question "Would this economic effect hold for any county, whether it has a prison operating in it or not?" can be addressed. It is both wise

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<sup>98</sup> Only the Federal Bureau of Prisons, California, Texas, and Florida incarcerate more people (ACA 2007, 2008).

and fair to doubt an economic study that only studies a targeted fraction of the population while pretending as if the entirety of the rest of the population does not exist. This study addresses that problem by including all three possible types of counties: private prison counties, public prison counties, and those with no prison built.

This study defines a prison as any state affiliated carceral institution that legally holds at least some felons. Institutions holding only criminals with misdemeanor offenses are not included, which means most local jails. Likewise, institutions holding only those awaiting trial are not included; however, pre-release post-sentence institutions are included. These pre-release institutions serve as prisons for a part of the prison population that is almost free, thus they can be expected to economically behave as standard prisons. Half-way houses (for parole violators) are not counted, nor are military facilities, Immigration and Customs Enforcement (ICE) processing centers, Bureau of Indian Affairs facilities, juvenile facilities with only a therapeutic community setting, group homes (which again eliminates many juvenile facilities), facilities with a capacity below 50<sup>99</sup>, drug or alcohol treatment centers, wilderness education youth facilities, youth boot camps, women's units which exist as constituent parts of otherwise male prisons, adult work camps, juvenile sex offender programs, or low risk facilities for underage females. Some facilities designated by the American Correctional Association as medical or psychiatric are included because many youth facilities have this designation even though their primary purpose is carceral rather than treatment.

The time span used in the sample frame was chosen based upon the development of the private prison industry. The first modern era juvenile private prison was the Weaversville Intensive Treatment Unit in North Hampton, Pennsylvania. The privatization of this facility was followed by the Okeechobee Schools for Boys in Florida (Austin and Coventry 2001, 12).

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<sup>99</sup> The American Correctional Association defines an institution with below 50 individual beds as "small."



These facilities turned private in 1976 and 1982 respectively. The first two privately run facilities for illegal aliens were contracted out by the now defunct Immigration and Naturalization Service in 1984.<sup>100</sup> It should be noted that the Department of Justice has traced the privatization of prisons back to the colonists in the early 1600s (Austin and Coventry 2001, 9). As noted, the first modern era private adult facility was opened in 1984 in Hamilton County, Tennessee. The time period studied dates to five years before this initial opening. Analysis ranges from 1979 to 2005. The first year of study is 1979 because it provides data to capture economic trends prior to this first private prison. The final year is 2005 because it was the most recent year for which data was readily available when sample construction began. This provides a statistically healthy 27 year range of observation covering a diverse set of American counties.

Random samples are the cornerstone of data selection in modern quantitative social science. Any method used to intentionally select a non random sample to study from a population universe should be explained. In this instance, a research design employing a stratified sample construction method is used. There are 3,158 county or county equivalents in the United States. The number reported in the U.S. Census is 3,141, but the present 3,158 figure includes all non county incorporated cities, most abundant in Virginia. Of this population universe of 3,158 counties, 2,547 of them (81%) contain no prison at all, 492 contain at least one public prison (15.5%), and 107 contain at least one private prison (3%). Clearly these three numbers are not close to being equal to each other.

Simple random samples are one way to assemble data, but systematically selected random samples are both common to the handling of many political science research questions as well as practically useful (Manheim, Rich, and Wilnat 2002, 109). The sample used in this study

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<sup>100</sup> These “prison facilities” included the old Olympic Motel in Houston, Texas which was surrounded by cyclone barb wire and filled with detained Latino men from the area (Mattera and Khan 2001). This was CCA’s first operation.

contains data from all 107 private prison counties, which hold 119 private prisons (See Appendix IX to see which counties hold multiple prisons). In this instance, a matched sample of 107 counties containing at least one public prison as well as 107 counties containing no prison were randomly selected from their respective subpopulations. This was done by assigning each of these county elements a number and then randomly selecting them based upon the output generated from a randomizing program. This is similar to a multistage random area sample commonly used in public opinion survey work (Fowler 1993). It also is like comparing an equal number of student pupils from three variously sized school districts.

Of course, the  $n$  of 321 counties could have been selected “purely randomly” by treating the entire universe of all county and county equivalents as the population of interest. However, as with public opinion research interested in a minority population’s reaction to a political event, this study effectively oversamples a subset of the known population. There are specific quantitative estimation procedures which could have been employed to address what would have become a “rare event” (e.g. King 1988; King and Zeng 2001) under a pure random sampling technique. However, the estimating of such methods are more fully developed for single level models (Jansakul 2005) and are a reaction to a specific sort of sample universe. They are typically employed as a response to probability underestimation rather than as an ideal model from which to begin research. These models, such as the Zero-Inflated Negative Binomial and Zero-Inflated Poisson are used in engineering to search for the cause of defects in a manufacturing process (Lambert 1992), but they deal with cases that rarely occur and *whose cause* is being understood. In this instance, private prisons are not a rare event being studied for their cause but rather are being studied in their totality to investigate any effects. A scientifically

designed sampling frame is the most cogent way to begin making inferences about these three types of target populations (Traugott and Lavrakas 2008).

Effects are better studied with all of the known data rather than some of the known data. Bureau of Prison researchers strongly noted that “very little attention has been given to developing detailed and interrelated propositions about how private prisons operate differently from public ones” (Camp and Gaes 1999, 5)”. To expand on this “use of actual data” point, there are procedures which would have allowed for the generation of artificial data with some degree of predictive accuracy. It is, however, preferred to use the real data rather than artificial data. One-sided selection, Synthetic Minority Over-Sampling Technique, and DataBoost-IM are all available and useful when the data does not present itself. In this study, the data issue is one that can be tackled with random sampling of the majority population, rather than one centered upon a lack of minority population data (Suman, Laddhad, and Deshmukh 2005). The single step away from pure random sampling, to what could be called an “oversample,”<sup>101</sup> is not confined to political science but is also commonly used to account for the performance of minority schoolchildren in education (DiGaetano, Judkins, and Waksberg 1995; Greer 2003; Riordan 1985).

## **Hypothesis**

The core question of this study is: “Does a prison, either public or private, help the local economy”? And second, “Does it economically matter to a locality if the new prison is public or private”? The answer depends at least in part upon the structure of the prison market.

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<sup>101</sup> The term oversample is technically inaccurate because the entire population of private prison containing counties is studied.

The supposed benefits of competition will not materialize unless there is a healthy marketplace of competing firms that bid for the right to provide services. In the same way that the effort to privatize the allocation of cellular phone frequencies and pollution through auctions was, to an extent, unsuccessful, the privatization of prisons will fail if there is no actual competition. The claim that a private prison will improve the economy of the community in which it is located is based upon dubious logic. First, there is the idea that service contracting improves economic performance through introducing free market competition into what was formerly bureaucratically run (Boyne 1998; Morgan and England 1988), and this idea extends into the development of private prisons (Camp and Gaes 1999; Crants 1991). Second, the difficulty with that claim here is that one private company, and in a few eyes two, dominate the field.<sup>102</sup> A Federal Bureau of Prisons study prefaces its empirical work with the following statement:

We simply assume that there is competition in the market even though Corrections Corporation of America and Wackenhut Corrections Corporation (WCC) control approximately 70 percent of the world-wide market.

[Camp and Gaes 1999, p.9]

Two years later, in another FBOP study, the same authors conclude that CCA and WCC now held 81.3% of the inmates in secure, adult, private prisons (Camp and Gaes, 2001, 5).

A distinction to make in analyzing the prison market is that between a duopoly and a monopoly. If it were a true monopoly, then only the government could provide prisons, in the way only the government can provide policing or fire protection services in a metropolitan area. The prison market is not like that, but instead it is more like some models of urban trash

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<sup>102</sup> Much like the private hospital industry, one competitive advantage of large firms is the substantial barrier to market entry of up front capital costs associated with real estate and construction.

collection or ambulance service (e.g. Deffenbaugh Inc. and Mast in Kansas City). In these markets, a single large firm competes with the government, seemingly at the government's behest. To illustrate, there might be two dumps: a public land dump and a single privately held dump that has obtained a permit to operate. The key point here is that capacity is more in play than price. There are only so many jail cells, so the price becomes responsive to a scarce supply of resources.

A monopolist or duopolist will reduce the quantity of service provided in order to drive up the price. The government may not save money if it transfers the business of running prisons from the governmental monopoly of state run prisons to a private monopoly of prisons administered by a single company. The private prison market poses extreme entrance costs: the specialized resources and capital demands requisite to housing prisoners in the custody of the state. Incarceration also has a most unique exit penalty, the creation of prisoners who would not have a cell if the company opted out of the business venture. These entrance/exit impediments, which strictly limit the self-interested behavior of firms, pose significant problems to the pricing structure for government customers.

Price considerations are often put aside, though, because Americans want prisoners to be arrested and held in prison. Get-tough on crime campaign rhetoric is the fourth most popular topic the *New York Times* carried on the corrections debate (Welch, Weber, and Edwards 2003).<sup>103</sup> Indeed, citizens want to adopt this tough stance without having to pay for the prisons necessitated by longer sentences for offenders. Donahue cites three mid 1980s opinion polls, conducted in Kentucky, Florida, and New Mexico, that show a then-prevailing sentiment of getting tough on crime without wanting to actually have to pay for it with more taxes (Donahue 1989, 153; Crants 1991). What do public officials do in such a situation? They can turn to

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<sup>103</sup> The next most talked about issue in a content analysis of the *New York Times* was privatization of corrections.

private corporations who use their own capital to build an expensive prison, thus saving the time-consuming, expensive, and sometimes futile task of putting a bond issue before the voters. As put in a prison and jail administration reference work:

Private firms would build the needed facilities using their own capital and then charge the government a price that would recoup both the capital investment and ongoing operating costs. Governments could pay for these services using funds appropriated for operations, thereby avoiding the need to gain voters' approval of increased public debt (McDonald 1999, 430).

Note that this book blithely skips through its explanation as if the taxpayers' subsidization of corporate profiteering does not exist as an additional cost.

One study found that 78% of CCA's facilities are financially supported by their own "customer," the contracting government. This financial life support takes the form of generous economic development subsidies. The researchers then ask, "Has the private prison industry been subsidized by the public sector in the name of economic development?" (Mattera and Khan 2001). Economic development incentives are usually employed to give a competitive advantage to a firm competing elsewhere in the private sector, such as a land developer. But here they are used to benefit firms which would not exist but for the public entities collectively granting them the subsidies. The Gordian knot here is are governments getting any long term economic gain for their difficult to come by cash?

Past research has indicated that the realization of cost savings is questionable (Pratt and Maahs 1999). But, advocates of this policy as well as the companies themselves have written a tidal wave of information showing cost savings that the private sector can offer. These cited cost savings are arrived at through claims of less staff, lower salaries, the absence of a labyrinthine government bidding process for purchasing supplies, the use of specialized incarceration

technology, and lower initial construction and architectural costs. However, consider that a recent Bureau of Justice Assistance study found that there was not realization of an expected 20% cost savings associated with prison privatization, but rather “only about 1%” savings (Austin and Coventry 2001). From reading cost studies, one might optimistically conclude that private prisons are slightly better at containing operating costs. Or, one could conclude, as Donahue did when looking at juvenile facilities (1989), that the small difference in expense might be, explained another way:

Public centers are more efficient, since they deal with slightly older and potentially more troublesome residents, have higher turnover, and – with less control over the flow of juvenile delinquents sent to them by courts or social agencies – are more plagued by undercapacity and overcapacity.

Put another way, Donahue is pointing out that private institutions can ultimately select who they house, an often unheralded reality. Further, studies that make comparisons on a strictly prisoner cost per diem basis make no allowances for the state’s expenses associated with oversight, legal issues, and other administrative concerns which are present when a private prison contract is awarded.

Operational cost savings and economic development can be at odds with each other in the instance of prisons. Consider that private prisons make money the way a McDonald’s makes money for a franchisee, by operating as cheaply as possible while selling a product. A substantial portion of any cost savings realized by private prison firms often comes in the form of lower paying jobs for less people than would be present if the prison were publicly run. The 1% savings the BOJ study found was mostly achieved through lower labor cost (Austin and Coventry 2001), explaining why labor unions representing public employees are so vehemently opposed to private prisons. One potential source of a local economic windfall would be the spending of workers’ compensation on local goods. If private prisons are built with the creation

of economic prosperity for neighboring communities in mind, it is an untidy fact that a solid portion of their efficiency gains are realized through savings on wages and benefits.

In one of the few publicly distributed studies, albeit a privately funded one, dealing with the economics of this policy area, it was found that

To a great extent, the private prison projects developed over the past 15 or so years have been located in economically distressed areas. In Mississippi, for instance, facilities were sited in some of the poorest counties in the entire nation. Communities such as these were desperate for jobs, and in many cases their leaders saw prisons as a form of economic salvation.

(Mattera and Khan 2001, 22).

So it is often with an eye towards saving dollars that a state deals with private contractors (Cotterell 2005; Gaes et.al. 2004 85-108; Kyle 1998; Stolz 1997). This move to privatize for the sake of cost containment is not limited to this policy area. 68.4% of all privatizing governments did so to save money (Chi, Arnold, and Perkins 2004, 467). Despite this driving motivation, a survey of state budget directors and state legislators indicated that about 24% of respondents said cost savings were unknown, while 18.4% said there were no cost savings, and an additional 10.5% answered there was 1% or less (ibid. 468). These fairly dismal results were by far the most common responses to the question.

But it is with an eye towards somehow making-- one could say conjuring-- dollars that counties as self-interested organizational sub-units of states let firms dip into the public cookie jar of subsidies (Logan 1990; Mattera and Khan 2001).



H<sub>1</sub>: *The presence of a privately operated or owned prison will not improve the long term economic prosperity of a county.*

## **Variables**

Dependent Variables. A two-pronged approach is used to capture local economic performance. The dependent variables are per capita income and unemployment. Personal income per capita, as expressed in constant dollars, best realizes any gains a family in one of the studied counties might realize from the creation of better jobs. The other dependent variable specified is the county's unemployment rate, as it best reflects the realization of an improved job market offered by a private prison facility's construction. This approach of looking at change in earnings simultaneously with employment is standard within the domain of regional economic impact analysis centered on institutional placement (e.g. Chakraborty and Edmiston 2006).

Both of the dependent variables are also regressed upon the other as an independent variable to check for a causal effect.

Independent Variable. The heart of this paper is a dichotomous variable that indicates the presence of a private prison. The data behind the variable comes primarily from the Private Corrections Institute (PCI 2009) and the American Correctional Association (ACA 2007, 2008). Though the PCI data was an exhaustive start, it represents the work of a dedicated advocacy organization, not the output of an impartial bureaucratic agency or trade group.<sup>104</sup> When

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<sup>104</sup> Just a note about the ACA, particularly as it relates to the impartiality of data used on this issue. Their mission statement is: "The American Correctional Association provides a professional organization for all individuals and groups, both public and private that share a common goal of improving the justice system (ACA 2009)." Based upon the group's observed magnanimous approach on the privatization issue, one can be confident that there is

available, ACA data was used in its place. Government websites for all fifty states' prison bureaucracies as well as newspaper and magazine accounts of prison privatization were also checked.

To account for a delayed effect of the presence of a private prison, this variable was lagged for durations of one, two, and three years in the model. A lagged effect in this study is not some mere afterthought to the modeling work.<sup>105</sup> It can be expected that construction of virtually any sort will provide some degree of local economic boost because of a surge in blue collar labor needs. It can be argued that it is sound public policy to create temporary jobs through public construction efforts, but undoubtedly that is a quite different effect than the generation of sustainable jobs. So a logical outcome of prison construction is that jobs would be generated only at first, and then they would disappear. This effect would be more pronounced if the prison sits idle or underused, as in speculative building. Research on New York State found that some "new" prison employees do not live in the host county but instead make a long commute (King, Mauer, and Huling 2003). Another dampening effect on unemployment decline is corporate in-house employee transfer rules that earmark a percentage of any new jobs for those already on the payroll. These people would potentially benefit a local economy by moving, but no previously unemployed native resident would receive that job.

There are in fact three distinct pools of jobs that could be realized when a prison is built. The first are temporary construction positions for infrastructure development and the prison building's erection. The second category of new job is related to day-to-day prison operation. Workers in this category include prison guards, operational managers, and support staff such as

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no systematic bias in their collection aimed against public or private institutions. The ACA deals with not just private firms but also public employee unions.

<sup>105</sup> Random effects estimators mix short and long term effects. Logically, there is reason to parse out temporal effects to reflect the time dynamics of economic impacts.

clerical and janitorial employees. And finally, in some instances, a prison could be so large that it generates a second order multiplicative effect for new employment. This effect can be driven by new retail services for resident workers, such as grocery stores, gas stations, and dry cleaners. It can be expected that these second order jobs would be more sustained than new construction employment.

The public variable is analogous to the private variable. It differentiates between the placement of a public and private prison. As with the private variable, there are three lag years accounted for in the analysis. And again, as with the private variable, lags were not continued beyond the third year for three reasons. First, the sample size of the number of prisons existing over three years was so low that basing conclusions on it would be a tenuous proposition. Second, by the third year it is reasonable to assume that the economic environmental change caused by the new prison's construction would have been mostly complete. Finally, because counties are open environments, other economic changes would have likely spilled over any impact seen from the construction of the carceral facility.

There are separate variables to account for the presence of a women's or juvenile facility. These are coded positive whether the women's or juvenile prison is public or private. Women's facilities and juvenile facilities are different than men's facility in more than name only. Because they serve different inmate populations, they have a different approach in incarceration and a potentially unique economic effect.

To account for the idea that larger prisons will have a correspondingly larger economic impact, the variable "average daily population" (ADP) is included. Average daily population is used rather than the raw inmate capacity whenever possible. Some prisons are built and remain empty because of strategically undertaken speculative construction (Kahn and Minnich 2005).

When the actual head count of currently held prisoners was available it was used. In actuality, this means that public prisons are here represented by the actual count of inmates but private prisons are reported with a capacity figure. Private institutions simply do not have the open access to data that public institutions offer, which of course raises issues of transparency outside the present bounds of study.

Some counties have more than one prison. In these instances the ADP numbers were added together for each institution and modeled based upon that total.

Population density is based upon the average inhabitants per square mile of land as reported to the Census Bureau. It is recognized that rural areas have different characteristics than urban areas, and prisons are often located in one or the other. There are not many prisons in suburbs or medium sized cities. They tend to be located in either urban crime and population centers or in sparsely inhabited rural counties. Controlling for density is logical when looking at the effect of prison construction upon a local economy.

The BA variable is the percent of the population over the age of 25 with an undergraduate degree, as measured by the Department of Education. Undergraduate education is known to be positively correlated with a higher income (US Department of Education 2009).

The Social Security Income Program is directed by the Social Security Administration. It provides supplemental cash payments in accordance with nationwide eligibility requirements to persons with limited income and resources who are aged, blind or disabled (US Social Security Administration 2009). This variable is a rate of individual benefit reception per 100,000 people in the measured population. Poverty is a difficult concept to measure over time on a sub-state level, primarily due to data limitations, so the rate of enrollment of this program is used as a best proxy. This variable is coded as “supplement.”

The crime variable is a measure of violent crime committed per 100,000 residents. In this study, crime is not included as a dependent variable. The study centers on prisons: the places people go when they are caught committing crime. At its core, the present analysis is not about crime but rather about the economic effects of coerced housing units for a segment of the US population – who happen to be criminals. Rather, county crime rate is included here as a control variable to separate out the effect community violence might have on income and unemployment, nothing more. Rising crime may or may not be associated with prison construction, but that is a topic for another study. Crimes' effects are used here, but questions of their origins are not explored.

Local economies are complicated phenomena that exist in an open environment. Much like with studying incarceration and arrest rates, researchers have to confront issues of simultaneity and spurious variable correlation. Respecting this concern, it is important to remember that many development projects shape economies other than prisons. It is widely accepted that things such as airports, universities, shopping malls, and stadiums will have an economic effect on a county. Yet, to the extent possible, it is important to control for local economic occurrences that exist independent of prison construction. Quite simply, is something else causing the jump that could be seen in either employment or income? The best way to do this with existing data is to control for housing starts. Controlling for the quantity of housing starts is the most coherent way to control for the effects of growth upon the dependent variables. To state the obvious, new housing unit construction is not indicative of new prison construction. Though the present economy has seen residential developments sitting empty, the number of licenses granted for housing construction remains a coherent indicator of any upward population

movement in a county. While houses might be conceivably constructed because prisons are being built, we can assume that they are generally constructed for many other reasons.<sup>106</sup>

## Model Notes

The regression model used, as with the juvenile death penalty chapter, is a generalized linear model that accounts for unobserved variation by including a latent variable. This latent variable is composed of random intercepts and coefficients rather than common factor form.<sup>107</sup> Any present latent variables will be referred to as random effects. The conditional distribution of the responses given my explanatory variables and the state non-random and random effects is specified via a family and a link function (McCullah and Nader, 1989). The GLM employed allows for the specification of the link and family of distribution desired for modeling (Rabe-Hesketh and Skondral 2008; Rabe-Hesketh, Skondral, and Pickles 2004). In both of these models, the conditional distribution of the responses was specified via the gamma family (see Greene 2003, 855; Jambunathan 1954).<sup>108</sup> The gamma family is the natural choice for this data because the regressands are continuous (unemployment rate and personal income) rather than discrete.<sup>109</sup>

While the gamma distribution is the correct one in the present case, the choice of which link is employed in a generalized linear model has more impact on the quality of the model than which distribution is selected (Gill 2001, 29). The canonical link is used in this model because it

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<sup>106</sup> It should also be kept in mind that there will be a lag between the employment of more workers and the construction of the issuance of new housing permits to meet increased demand.

<sup>107</sup> In this study the model was run using GLLAMM, a statistical module developed specifically for STATA (Rabe-Hesketh and Skondral 2008; Rabe-Hesketh, Skondral, and Pickles 2004). GLLAMM stands for Generalized Linear Latent and Mixed Models.

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<sup>109</sup> The Gamma distribution has been used before to study income distribution specifically (Atoda Suruga, and Tachibanaki 1980; Kloek and Van Dijk 1978; Salem and Mount 1974).

is preferred if it does not contradict the substantive idea of the research project (McCullah and Nader, 1989). Once the gamma family form is selected, the link function identifies itself (Gill 2001, 32). The canonical link for a GLM with a gamma distribution is the reciprocal link:  $y^{-1}$  (Gill 2001, 31, 39; Johnson 2006 4).

As an artifact of the counties included in the sample (see Appendix V), there are 42 separate states included in this study. Political science theory suggests that states have strong effects upon behavior in the political world because of their unique environments (Gelman 2008). While Gelman looked specifically at electoral behavior in presidential contests, states also have very different public policies (Mooney 1998; Smith, Greenblatt, and Mariani 2008, 4-25), perhaps caused by state culture (Elazar 1984; Hanson 1991) or state economy (Ringquist and Garand 1999). It is my belief that not accounting for state effects in this regression model would create uncertain results due to misspecification of the parameter estimates. The economic impact of a prison is believed to be dependent on the institutions and political structures of the state in which it is built, and this model recognizes that.

Recognizing that states should be understood as variant units, a hierarchical model with state effects accounted for was warranted. The primary alternative would have been to treat each state as a factor. Treating each state as a factor in a multivariate regression presupposes that one state has an influence on another, which is not being claimed. Such a factored approach eats up degrees of freedom, making it inferior to a nested model. This data has time invariant information in it that does not vary within an observation (a county) at any time. For instance, a juvenile prison is always a juvenile prison in every year of the model. Using a fixed effect model would have been flawed because its transformation would have wiped out these static

observations' effects from the model.<sup>110</sup> Further, the target of inference for this study is not the variation among the states. Rather, the topic is the aggregate effect of the unique states on unemployment and personal income. It was also considered that this data is not a comprehensive set of all information for all American counties. Because the model is a tool to draw inferences regarding other members of the population, including any related future events, the random effect is more appropriate (Kennedy 2008, 291).

The equations for this two level regression are as follows:

Level 1:        Using Gamma probability distribution as in footnote 33:

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Level 2:

The level one data are the 8,524 individual county-year dyad observation sets. This number represents the complete cases of study over the 27 year time span. It is denoted above that the function makes use of the reciprocal link. The  $j$  subscripts in the level one equation indicate that a different level one model is being fitted for each of the level-2 units, which are the states.

Epsilon is a stochastic disturbance term that is not constant.

is the effect of the level-2 predictor and indicates how the first equation is a function of the second level units' variability. The  $j$  symbolizes which state effect is being accounted for in the equation (the states are numbered one to forty-two arbitrarily) in alphabetical order is the error for unit  $j$ , and hence part of the calculation in equation one.

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<sup>110</sup> The value of these variables is constant so subtracting one from the other to find an average would have transformed them all to zero during the estimation process.



## IV. Summary and Discussion of Results

**Table 1**

Variables	PI (Constant Dol.)		Unemployment Rate		
	Coefficients	S.E.	Coefficients		S.E.
Private Prisc	-2.44	1.32	.027 *		.007
Private - 1 yr lag	-1.49	1.87	-.002		.01
Private - 2 yr lag	7.33	1.94	.006		.01
Private - 3 yr lag	-1.43	1.48	-.007		.008
Public Prisor	-6.71 *	9.06	.001		.004
Public - 1 yr lag	2.65	1.44	.004		.006
Public - 2 yr lag	-4.24	1.6	.0007		.007
Public - 3 yr lag	-1.47	1.17	.005		.005
Women's Prison	1.61 *	4.03	-.01 *		.001
Juv Prison	1.29 *	4.58	.01 *		.002
ADP	1.12 *	1.16	-3.55 *		3.19
Pop. Density	-2.01 *	1.1	-4.37 *		7.33
BA	-6.46 *	2.24	.003 *		.0001
Supplement:	.0002 *	7.31	-.14 *		.008
Crime	-9.17 *	6.82	-5.26 *		2.61
Housing Uni	-.0001 *	.00002	.046		.06
Unemploye	1.63 *	4.63	na		na
PI Constant					
Dol.	na	na	7.18 *		1.81
Constant	.00007 *	5.72	0.02 *		.002
Pearson X <sup>2</sup>	272.6		1160.502		
Degrees of Freedom		8506			
Number of Level 1 Units		8524			
Number of Level 2 Units		42			

\* < .01

### Summary

The quantitative findings, shown above in Table 1, demonstrate that hosting a private prison offers no economic panacea to concerned state or local policy-makers. Within the field of economic development, it is not rare to find that a new construction project or event either causes little to no economic growth or even presents itself as an economic drain (e.g. Baade and Dye

1990; Coates and Humphreys 2000; Colclough, Daellenbach, and Sherony 1994; Goetz and Swaminathan 2004; Hooks et. al 2004, 2010).

This study was done with a hierarchical model which took state effects into account. The unit of study was “counties with prisons – year” dyads. A 27 year time span with a national scope allowed for analysis of prison construction in different economic and political environments. The sample included all private prisons and random selection of public prisons and localities without prisons.

The dependent variables selected, unemployment and personal income, were chosen as the best aggregate measures of economic impact. Employment levels and rising income are typically how economists conduct economic impact analysis barring individual level data typically gathered through survey and sector level analysis (e.g. Baade and Dye 1990; Crompton and McKay 1994)<sup>111</sup>. Economic performance could be represented solely by per capita income (e.g. Brace 1991; Gray and Lowery 1988; Hendrick and Garand 1991). However, employment level is also commonly recognized as an important measure of economic health (Economic Development Review 1995; Gazel and Schwer 1997; Jones 1989; McDonald 1983; Newman 1983). This pair of measures has been used before to look at prison privatization. But in that study, only a single state’s rural areas were examined (King, Mauer, and Huling 2003). A more recent study of the economic impact of prisons only looked at employment (Hooks et. al 2010).

## **Discussion of Results**

To begin a discussion of these results, consider the example of Kansas City, Missouri. In 2008 Kansas City had a budget crisis. In response to that, the council and mayor have

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<sup>111</sup> Property values, if there is data for it, is another way to assess economic impact beyond employment and income in a study without survey data developing an accurate multiplier (e.g. Debrezion, Pels and Rietvold 2006).

considered closing the municipal jail and housing inmates in a yet to be built private prison in a rural area. This was thought by some to be the cheapest course of action. Ultimately, it was decided to close the city jail and merge with the nearby Jackson County, Missouri facility. In this instance, politically engaged Kansas City residents spoke up about the reduced services a private jail would offer, as well as its distant location (K.C. Star, February 18, 2009). This example typifies the prison privatization decision making model employed by public officials today and shows the merits of policy outcome analysis for this topic. The privatizing notion was publicly mentioned as an “innovative” and “modern” cost saver, but as is often the case, was ultimately not used by the city. Proper critical policy evaluation could reduce the situations in which it is seriously considered, thus serving to save the time of officials for other matters (Crompton 1995). Alternatively, studies like this one could provide evidence for its furtherance.

By law, some states have no option to contract for incarceration. Between 1987 and 1997, 26 states enacted legislation authorizing the private management of secure correctional facilities (Nicholson-Crotty 2004, 45).<sup>112</sup> As recently as 2002, that number still stood, with Washington D.C. and the Federal Bureau of Prisons opening themselves to private contracts as well (Camp 2002). A snapshot of a single year, listing the private companies that contract with each jurisdiction, is labeled Appendix VI. Appendix VII lists the contracting firms in 2002 and the number of facilities each operates.

There is such a thing as the politics of place. Research in the state policy subfield has discovered real subnational differences regarding substantive issues. There are differences between factors such as personal income, crime rate, unemployment, and economic growth which are neither arbitrary nor the product of chance. Beyond basic geographical and legal

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<sup>112</sup> See Appendix IV for a listing of states and agencies which solicit contracts for private prison facilities in the sample year 2002.

boundaries, states vary in their cultures, politics, and demographic characteristics (see *The Book of the States*). States also differ in their relative economic prosperity (BEA 2009), owing this variance to such things as the level of government intervention (Buchanan 1975; Friedman 1962; Hayek 1962; Hirschman 1982; Olson 1982; Osborne 1988, 1993; Srinivasan 1985) or the quality of the labor pool (Florida 2002a, 2002b; Fosler 1988; Moriarity 1988; Smith and Rademacker 1999; Wheat 1980). Though there has been a nationalizing trend in federal government economic intervention since the 1960s (Atkinson 1993; Eisenger 1995; Turner 2003), with a few downward hiccups<sup>113</sup>, state policy conditions still matter in determining economic conditions (Canto and Webb 1987; Jones 1990; Jones and Vedlitz 1988; Newman 1983; Plaut and Pluta 1993; Schneider 1987).

However, as Paul Brace cautions at the beginning of his study on state economies, “States have open economies with labor and capital moving freely from state to state (1993)”. Studying the economy of states is both similar to and different from studying the economies of different nations (e.g. Lehne 2002; Lindblom 1977; Wilson 2003). Because states have different governments, laws, business environments, and cultures, they can be conceptualized as unique units (Brace 1991; Felman and Florida 1994). Yet Brace is correct to issue a disclaimer at the front of his book (1993), that there are regional and national effects which alter the states’ economic environment (Florida 1996; Florida and Smith 1993; Hendrick and Garand 1991). For instance, stagflation in the 1970s touched all states, as did the “dot com boom” of the 1990s to early 2000s. Likewise, to treat the counties within states as totally separate from them would present a spatial econometric problem.

Because the present study does indeed drill down one level further than states, to the county, the question of the containing state’s influence on local economy becomes pertinent. A

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<sup>113</sup> The devolutionary administrations of Ronald Reagan and George H.W. Bush.

model that uses one regression line for all states would be poorly specified because of state differences. The nested regression of this study is justified because it allows for the regressors to vary with the latent variation of the states. In other words, the model recognizes the reality of the data in its design.

This study uses a long span of time in answering the question: Do private prisons economically benefit the counties in which they are located, or do they stand only to make money for the parent companies' owners? The time series aspect of the study's design is important because it allows for a larger sample that contains both economic upturns and downturns. If the sample only contained data from the tech boom or only data from the tumultuous 1960s than any effect seen could be an artifact of the times. The present span captures a diverse collection of both recessionary and growth years; years of both slow sustained change, as well as abrupt economic shocks such as after 9/11.

One recent study of the economic development subsidies given to private prison operators noted that

Local governments are not systematically assessing whether the subsidies they have provided to prison companies have had the desired effect. Not a single official we interviewed could point to a formal economic impact study that had been done of the private prison built in his or her community (Mattera and Khan 2001, vi).

The economic impact of this policy is an important question that has not been addressed in academic work. A prison administrator's reference book stated, "Little systematic research has addressed...whether privatization has furthered government objectives other than cost containment (McDonald 1999, 431)".

Recall that the two measures used to assess impact on a county's economy are personal income per capita and unemployment. These measures best perform economic impact analysis

as defined as the measurement of economic growth stimulated by increased in fiscal demand for products produced in a regional economy (Bergstrom et. al 1990). Another similar working definition of economic impact is the net economic change in a host community, excluding non-market values, which results from spending attributable to an event (Crompton and McKay 1994).

Taking first the unemployment results, there is no substantial change in local unemployment brought about because a prison is constructed in a community. In economic impact analysis, it is common to distinguish between construction jobs that are short lived and new permanent jobs (e.g. Batey, Madden, and Scholefield 1992; Colclough, Daellenbach and Sherony 1994). It would be predictable if unemployment briefly declines during new construction. The findings here indicate no real differences in employment at anytime because of a prison. The only statistically significant variation is during the first year a private prison is constructed, when unemployment actually went up a small amount.

Despite this finding, prison construction remains a labor intensive process. The prison industry is a brick-and-mortar business similar in some ways to big-box electronic retailing, and dissimilar to a financial services company. The erection of a prison complex requires at least the usual number of blue collar jobs, just as any specialized construction project would. Further, prisons are not empty concrete shells like warehouses, but are filled with the unique materials required to hold inmates. Prisons have elaborate locking systems, closed circuit cameras, riot-proof food service equipment, and sturdy perimeter fences, just to highlight a few things. The integration of all of these pieces employs specialists from other geographic areas. It is also worth considering that private companies build prisons for less money, so perhaps they are more apt to use temporary staffing agencies during the building process. Another reality is that private firms

simply make use of trained people already on their own payroll. A core competency touted by private firms is the cheap construction of new prisons, particularly regarding empty speculative ones<sup>114</sup>, so if they are to be believed, they use less labor.

Whatever the case, a positive effect on unemployment is just not presenting itself in the data. This is logical because of the fact that prisons typically do not grow. A prison is built to hold a certain number of people, and by design their original buildings offer little flexibility in this.<sup>115</sup> Once initial hiring is finished, it is not likely there will be a large uptick later down the road. Prisons do not grow the way a manufacturing plant or a research facility might. In fact, one might normatively hope that they shrink as crime declines. So, given the mitigating effects mentioned above that prison staffing has on local employment, and their static nature, this result is not surprising.

The presence of a juvenile prison, whether public or private, has a minimal effect on the employment picture. It could be expected that prisons create a change in local employment, but not a major one. At one time, juvenile prisons were very different than adult prisons because of the more therapeutic setting they typically provided. Perhaps it would not have been surprising that they could lower unemployment because of the more diverse type of staff they once required. Now, however, they are more likely to resemble their adult counterparts. From a local economic development standpoint, it is noteworthy that youth facilities also tend to be smaller

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<sup>114</sup> CCA 2006 Annual Report (6), reads: In addition to the new Red Rock and Saguaro facilities, we are expanding several existing facilities by approximately 4,000 beds. The new beds are expected to come on-line throughout 2007 and during the first half of 2008. Roughly 2,600 of these beds are being developed for specific customers; however, none has a guarantee of occupancy. We are optimistic that the remaining expansion beds will be utilized by federal and state customers.

<sup>115</sup> With some notable exceptions. The first being the so-called “tent cities” used to detain illegal immigrants in southwestern border states, such as the one in Willacy County (Raymondville), Texas. The second being the expansionary tendency of industry goliath CCA to construct new holding wings to keep up with rising incarceration rates.

than adult facilities. Even if they might now have more staff per inmate, however miniscule of a difference this is, such small facilities should not be seen as robust hiring engines.

Women's prison construction causes no appreciable change in unemployment, which is not surprising. This is not a lagged variable but simply indicates the presence or absence of a female holding facility in any year. There is no sound reason to expect women's prisons would impact a local employment situation more than a male one. They are managed and run in much the same manner as male or mixed gender facilities.

The average daily population of a prison alters the employment landscape significantly, which is an interesting result. The data strongly indicates that the size of the complex matters. The larger a facility is, in other words the more prisoners it has present at roll call, the lower the unemployment rate. Recall that the public and private prison variables parsed out the years with a lag effect, but the ADP variable will not fluctuate much with a prison's age. But caution should be taken before this result is interpreted as standing against evidence for the "prison as community blight" argument. Larger prisons are often constructed in rural areas with unemployment rates structurally different than those of urban areas. It could be that another study should be done focusing just on larger prisons. Perhaps there are insightful differences between the construction of a large prison and a small one.

The regression controls for some environmental effects. Population density, education level, social security assistance, crime rate, new housing construction, and personal income all show significance in the model. Crime and population density are associated with lower unemployment, but it is likely these are proxies for how urban a prison community is. These results therefore do not indicate any appreciable change in unemployment driven by prisons, so much as they point out labor differences driven by broader contextual factors.



Turning now to personal income, the second model's results are aligned with the changes seen in the unemployment rate. Private prisons do not raise a county's average personal income. This result holds for the one, two, and three year lags as well. Perhaps private prisons do more economic harm than good given the average 1997 starting salary of \$17,246 reported in a government study (Austin and Coventry 2001). Data beyond that number are hard to come by because of the more secretive nature of private profit-driven institutions. Firms' own literature and sales information does tout their lower labor costs, so firms themselves would, in all likelihood, not be surprised to see that they are not driving up local incomes.

The results for public institutions reinforce the notion that prison construction is not a strong economic catalyst for communities. There is a negligible drop in personal income the first year a prison is built. This is explainable because the lower paying blue collar jobs required of a large construction project might be nudging this number downward. There is no economic boom seen here as when a local government builds an airport (Batey, Madden, and Scholefield 1992; Butler and Kiernan 1986), develops its agricultural industry (Birkhaeuser, Evenson, and Feder 1991; Degner, Moss, and Mulkey 1997), hosts a concert (Gazel and Schwer 1997), creates another transportation node (Debrezion, Pels, and Reitveld 2006; McDonald and Osuji 1995; Vessali 1996), or hosts a university (Agapoff and Harris 2000; Beck, Elliott, and Wagner 1995; Caffrey and Issacs 1971; Chakraborty and Edmiston 2006; Marshall University 2006).

The other variables studied as drivers for income do not produce any shocking results. It is noteworthy, yet completely unsurprising, that unemployment is associated with lower income while other variables are associated with microscopic variable fluctuations. The model shows significance for a number of variables, but at a very small level of change.

In conclusion, these results hold some important information for policymakers weighing out the construction of a private prison facility. They reinforce the idea that construction of just about any public project will likely create at least a few jobs that may or may not pay well for locals. Prisons holding all manner of people at all manner of detention level certainly qualifies as “about any” public project. Of course, what is being built has an appreciable effect on its surrounding community down the road. People could also be employed building a road, a bridge, or a genetic research center at least as well as they could a carceral facility. Educational or research facilities are prized economic engines sought after by local governments (Aued 2008; Fagan 2007; Friedman 2002). Private prisons are a convenient yet strange solution to the question of economic growth.

Any long term economic gain for citizens, the effect sought after by politicians, does not present itself in the data. It is understandable that local officials, particularly during a recession, could try to sell a private firm’s new business as a driver of jobs. If CCA or Avalon Inc. remain the only ones talking, then politicians are sure to listen.

This study, if nothing else, raises important questions about the effects private prisons have upon the communities in which they are located. Too often both published policy work and more informal, less systematic studies concerning individual privatization issues focus on short term cost savings. When conducting research in this manner, policy analysts take on the role of operations managers rather than objective analysts. This approach overlooks the greater structure of the relationship between the public and the private, and its consequent effects on this nation’s communities. Examining income and unemployment is a start, but what about other effects? What types of jobs are created, and what do they pay? Who moves next to a prison? Who are these “new” people and what are they going to do with their time? Are people relocating

because of a prison-caused drain on local social services such as public health care clinics or social welfare agency offices?

A 1997 General Accounting Office report said that privatization requires a politician willing to champion the cause (GAO 1997). A profile of these champions of privatization would be a useful tool for researchers in the field. Who is seduced by the siren song of a 2,500 bed cinder block building and why? Are they not able to think of another way to generate local jobs, and if not, why not? Is this appealing because of the “get tough on crime” attitude coupled with job creation? Or is this purely a financial move? A survey sent to local officials who have overseen a private prison could get at these questions. It could shed light on the relative importance of crime reduction stance versus economic growth.

A businesses’ customer is who pays the bill, not necessarily who received the service. In that regard, prisons do not operate at all like hotels, with the occupants paying for their own stay. The customer base in this industry has always been and will always be the American taxpayer. For this service, there is a line of entrepreneurs willing to take the public’s money. The inmate is more like a product being built at a manufacturing plant than they are a paying customer. Focusing on a prison as a piece of crime reduction is a distraction to a purely economic study. The appeal of getting tough on crime serves to disguise what are often financial boondoggles for subsidizing localities. Just as prisoners are confined to a cell, so are taxpayers confined to the environment created by public private partnerships. Policymakers should turn to long term economic studies considering the experience of other communities when analyzing prison construction.

A step forward from this study could be to select a smaller subsample of this population to conduct individual level analysis of thorough site surveying. These surveys would discover

the wages and spending patterns of new prison employees or families of prisoners who move to a specific area. Survey data would provide information that could be used to build an impact multiplier, which is the key ingredient in determining local economic effects in studies that zero in on one area (e.g. Bergstrom et. al 1990; Colclough, Daellenbach, and Sherony 1994; Degner, Moss, and Mulkey 1997; Gazel and Schwer 1997).

## **Conclusion**

This dissertation began by explaining how it fits within Harold Lasswell's well developed ideas on public policy analysis. Accordingly, its three chapters are multidisciplinary, practical, problem oriented, and adaptable to the normative ideas of criminal justice policymakers. Though they all address criminal justice policy, they share much in common, both stylistically and methodologically, with work in other substantive policy areas. It is not just helpful, but indeed essential, that research such as this in criminal justice policy can be studied alongside efforts tackling other topics of public concern such as environmental regulation, public health care, or disaster preparedness. However, as explained in the introduction, criminal justice policy also possesses a set of different characteristics when compared to other policy areas. Recall that criminal justice policy is dictated by policymakers' get tough on crime rhetoric, subject to the unpredictability of deviant human behavior, and disjointed because of its disjointed multi domain nature. Further, it is complicated by the American federal system, particularly the dual structure of the American legal system's federal and state courts.

With these underlying characteristics in mind, the three chapters' results can be studied alongside each other to shed light on common themes. Though specific implications of each chapter deal with different policy sub-domains, together they form an interlocking narrative regarding criminal justice policy. Indeed, to study the constituent units and activities of the criminal justice system independently would encumber policymakers' ability to effect intelligent system wide change. For example, the cost analysis of per diem prison incarceration rates makes little sense without commensurate knowledge of recent criminal sentencing trends. Similarly, looking at crime deterrence does little good with no understanding of a society's tolerance level of crime rates.

The three chapters have shown, respectively, that the juvenile death penalty (JDP) was not a deterrent to juvenile violent crime, that African-Americans react differently to police officers than whites, and that private prison construction is not an economic panacea. In this conclusion each chapter's results will be discussed in terms of their broad implications, as well as contribution to the relevant literature. In each topical area, possibilities for further research work will be explored. Finally, the work ends with some brief thoughts on this area of study.

The first chapter of this dissertation makes an important, and unique, contribution to the mountain of literature on capital punishment. Recall that this study concerns a clearly defined portion of the death penalties that were applied in the modern era from 1974 to 2005. It uses a robust collection of author requested FBI crime statistics<sup>116</sup> to look for any effect of a juvenile death sentence or juvenile execution upon the national juvenile murder rate and the national juvenile violent crime rate. In summary, the results of the study show that the presence or absence of a rarely used punishment has no discernible effect on the tiny portion of the juvenile population that commits violent crime. This chapter's finding fits into public debate on the controversial punishment, and adds to the academic literature on deterrence studies. Its methodology presents a worthwhile way to analyze the efficacy of the death penalty on targeted criminal subpopulations, while modeling a valuable way for policy analysts to contribute to public debate on a topic often framed in terms of morality or perpetrator innocence.

The death penalty is a state's penultimate penalty that might be imposed on a criminal. It is intended to not just serve as a comeuppance to a single individual, but also to send the harshest of signals to would be offenders: if you commit a capital offense you might be killed by your government's justice system. For present purposes ethics based arguments regarding the state sanctioned killings will be set aside. So clearly, the primary value in the penalty to citizens lies

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<sup>116</sup> These statistics actually span from 1974 to 2006 to include a year of data past the punishments end.

in its crime deterrent effect to potential capital offenders.<sup>117</sup> To the extent that it deters violent crime it can be declared a success by proponents. Likewise, analysis should address the validity of the deterrence claim. Importantly, the punishment remains controversial, with 31% of people disapproving of its use on convicted murderers (Gallup 2009).<sup>118</sup> This lack of public consensus is not just because of normative arguments about the taking of a life by the government.

Beyond morality arguments Baumgartner, De Boef, and Bodystun identified four other shifting frames of public debate regarding capital punishment (2008, 108-110). In an exhaustive study of 3,939 *New York Times* article abstracts covering 1960 to 2005 the authors identified efficacy, morality, fairness, constitutionality, and international issues as the major categories of public discussion (ibid). Their work keys in on the frame of fairness, particularly as it surrounds the idea of innocents being sentenced to death. What they explain as the “innocence frame” has dominated media description of the penalty during a period of public reconsideration of the issue (Gottschalk 2009; Morone 2009; Sarat 2009; Shapiro 2009).

Chapter one of the dissertation makes an argument that would fit most obviously in the issue frame of efficacy, because it deals with crime deterrence. However, this first study also steps into the media dominating issue frame of fairness/innocence. Taking first how the chapter fits into other deterrence studies, it is worth noting what legal historian Stuart Banner calls the “folk wisdom of deterrence” (Banner 2002, 281). For years, Banner documents, it was simply accepted by policymakers that the punishment just had to deter crime. However, econometrics can make quick work of folk wisdom (Fagan 2006).

The notion of punishment as deterrence, as spelled out in the first chapter, can be traced back to historical criminologists such as Cesare Beccaria ([1764] 1963). Basic statistical

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<sup>117</sup> Though I must concede that some derive a satisfaction from the atonement of the punishment (Banner 2002, 23).

<sup>118</sup> For aggregated trends in death penalty approval among the public from 1953-2006 see Baumgartner, De Boef, and Bodystun 2008 (p. 174).

analysis conducted as early as 1959 (Sellin) established the modern scholarly practice of looking at the death penalty's effect in an environment filled with external factors. The work of first Nobel winning Gary S. Becker, and then more frequently Isaac Ehrlich, added to the sophistication of earlier quantitative techniques. In fact, it is possible to trace much of the evolution of time series modeling techniques through the scholarship of this one oft written about policy area.

As recounted in detail in the chapter, the present study adds to the corpus of death penalty analysis by continuing the basic formula set out by those noted above and then practiced and shaped by others (e.g. Bowers and Pierce 1975; Chressanthis 1989; Decker and Kohfeldt 1984; Fox 1977; Jongmook 2009; Mocan and Gittings 2003; Yunker 1976). Though some work has strayed from this basic formula and has investigated underlying theoretical deterrence questions, such as the certainty of the punishment versus its severity (e.g. Mendes and McDonald 2001), and the utility of a portfolio approach to crime analysis (e.g. Cloninger 1992).

What makes this study unique is not its widely accepted statistical methodology, but rather its more narrow focus on the JDP. Though the death penalty has been the subject of a vast number of serious studies, the penalty has rarely been broken down for analysis by population subgroup. Such minority group studies, when done, most often are legal analysis (e.g. Ackerson, Brodsky, and Zapf 2005; Blume and Johnson 2003; Hall 2004; Horstman 2002; Jones 2004; Slobogin 2003; Tobolowsky 2003, 2004, 2007) rather than quantitative social science studies. For example many of these legal journal studies are published after a Supreme Court decision, such as with *Atkins v. Virginia* (2002). When scholarly work outside of the legal profession has strayed into minority population groups and the death penalty, it most often does not deal with deterrence. Rather, it deals with prosecutorial decision-making (Songer and Unah 2006),



sentencing outcomes (Eberhardt et al. 2006; Stauffer et al. 2010), execution application after sentencing (Jacobs et al. 2007), or more basic existential considerations of the death penalty (Zimring and Whitman 2006).

This dissertation carries out an important disaggregation of national crime occurrences into those committed by adult and juveniles. Naturally, every category of large statistical data can be further broken up into yet more subcategories. In this case, because of data limitations, non-capital murders are folded into capital ones. Work has begun however, by a scholar that attempts to break down murder into types, so that the deterrence of capital punishment can be assessed as to so-called crimes of passion (Shepherd 2004).<sup>119</sup> Herbert Simon's model of an actor making decisions with limited information in a finite period of time, using decision making heuristics, is pushed to the limit with deterrence models dealing with instances of violent personal rage (1957).<sup>120</sup> Scholarly work that examines the deterrence effect of a punishment, including capital punishment, within certain populations such as a race or age group can put a finer point on such examinations.

Policymakers could benefit from quantitative analysis of the enormous amount of existing crime data to make finer conclusions. This study makes a solid step in the right direction by matching a punishment targeted at one group, the JDP, against a corresponding set of committed crimes. Future death penalty deterrence studies examining for instance, African-Americans, Latinos, the elderly, or urban dwellers could follow. While the special quality of examining a holistic set of capital sentences and executions would not be possible as uniquely is

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<sup>119</sup> This work is based on the Bureau of Justice Statistic's Supplemental Homicide Reports and while valuable, needs further scholarly development. In the world of legalities, their use would not be settled law.

<sup>120</sup> This refers to the boundedly rational model of decision-making (Simon 1957).

with the defunct JDP,<sup>121</sup> there would be added value in analyzing an ongoing practice rather than a historical one.<sup>122</sup> Future research that pairs up slices of the population with categories of capital offenses would allow for deterrence modeling that moves beyond present day work.

Clearly, finer analysis of the FBI's BJS crime statistic data could develop studies analogous to this one. A family of studies dealing with different population groups could be conducted that move beyond the apparent syndrome of death penalty deterrence work that lumps together the entirety of the US population. While it is appreciated that the literature has demonstrated advancement of time series modeling techniques, the intelligent design of datasets could strongly stand to catch up to available analytical tools.

Such studies can allow for conclusions that incorporate into them subgroup characteristics. In this instance, scholarly work on adolescent brain development is what is relevant because it speaks to the more limited cognitive functions and impulse control of minors. The policymaking institution, in this case the Supreme Court in *Roper v. Simmons* (2005), used psychiatric data in its majority decision to reason out that the JDP is not an effective deterrent on such a lower functioning population group. Notably absent were disaggregated juvenile murder rates that corresponded with juvenile sentences and executions over time. The justices made the leap of logic from the medical literature to an abolitionist stance without presenting data as contained in this study that makes the direct connection between crime and punishment. Future work along these lines would have obvious value to those directly involved with the capital punishment issue.

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<sup>121</sup> Though one could imagine a study regarding *Atkins* and the mentally challenged. However, FBI UCS data is not as readily broken down into offenders that deemed to be mentally deficient.

<sup>122</sup> Historical at least for now. Recall that over the last handful of decades that the entirety of the punishment has come and gone in correspondence with popular mood and Supreme Court decision-making.

Turning now to the second chapter, the dissertation moves from punishment to policing. This chapter explored citizen and police officer interactions using survey data on traffic stops. In the course of exploring symbolic bureaucratic representation, it was found that African-Americans are more likely to believe police stops are illegitimate. This was not an especially surprising finding (Baylery and Medelsohn 1968; Boggs and Gallier 1965; Brunzon 2007 Erez 1965; Fine et al. 2003; Frank et al. 1996; Hindelang 1974; Percy 1980; Scaglione and Condon 1980; Theobald and Haider-Markel 2008; Perry and Sornoff 1973; Roberts 2004; Weitzer 2000; Weitzer and Tuch 2002), given the well documented differential treatment of African-Americans in the United States (Spitzer 1999; United States Commission on Civil Rights 2000). Evidence for a race based interaction effect between the citizen and the stopping police officer was found however, as it had been in earlier research (Theobald and Haider-Markel 2008). Though as reported in the second chapter, it was found for a single variable. Recall that African-American males were more likely to think a black police officer “behaved properly.”

Because police are the most visible of all criminal justice institutions (Chermak and Weiss 2005, Goldsmith 2010), any sort of varied response they elicit from a large minority group, such as African-Americans is noteworthy as a standalone fact. Regarding policing, the chapter highlighted the importance of minority officer hiring programs, with the obvious connection being the increased respect given black officers by black citizens. Police officials can also learn from survey data like the 2002 and 2005 PPCS in order to form officer training programs. If African-American citizens react different than white citizens in traffic stops, then surely that is information police patrol managers would like to have for instructional development purposes.

Methodologically, this chapter provided an exciting insight. By including both the 2002 and 2005 PPCS and producing logically consistent results between them, it exhibited internal validity for these measurements. Also, because it is directly comparable to an earlier similar research work using the 1999 PPCS it speaks to that effort's validity. But perhaps most enticing is the different results gathered for each of the four 2005 questions. Because respondents answered these differently, yet in a coherent manner, it provides evidence that these citizen surveys are indeed very precise instruments of public attitude and feeling.

But this chapter is more than about a narrowly defined traffic stop, or even the survey analysis of policing. It is more broadly about bureaucratic representation as exhibited by this one function of the government. Public policy scholar Anthony Downs (1967) did not take issue with how demographically representative bureaucracy was when compared to the general population,<sup>123</sup> but he did develop a list of four conditions that must be met for proper bureaucratic representation:

- 1) Value alignment between bureaucrats and citizens,
- 2) Shared values must be relevant to the bureaucratic task at hand,
- 3) Officials must share a desire with citizens to shape their bureau's behaviors to align with citizen values,
- 4) Supervising officials must have the authority to employ these shared values in determining bureau behavior

One criminal justice policy implication for this chapter is that police departments should be aware that minority citizens possess different attitudes regarding traffic stop behavior. Police

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<sup>123</sup> In fact, Downs questioned if bureaus would simply "spontaneously" form which represented a cross-section of society (Downs, 1967, 233)

departments should be interested in striving for Down's third point, "Officials must share a desire with citizens to shape their bureaus behaviors to align with citizen values," because police are the public's agents for detecting, solving, and ultimately preventing crime. Police chiefs are doubtlessly aware that they conduct essential functions which necessitate citizen cooperation (Gourley 1954; Sunshine and Tyler 2003; Tyler 2004; Tyler and Fagan 2008). Consequently, police departments should actually desire to shape their values to those of the citizens they are charged with protecting from crime. To reach that end, departments should consider active minority hiring practices. At this point in time, minority citizens view the actions of minority bureaucrats more positively than they do actions of white bureaucrats. This result holds true in the contentious area of traffic stops. At a minimum, if departments are already changing hiring habits as recent data seems to indicate, then perhaps they should also incorporate knowledge of attitudinal predispositions held by minority citizens into police academy curriculum. This would allow all officers to be made aware of the effects a discretionary traffic stop has on the citizen involved.

The PPCS is conducted every three years as an addendum to the NCVS. The most current data publicly available at ICPSR is 2005, but the 2008 data should publish soon. An ensuing study analogous to this one will allow for insights that carry across 1999, 2002, 2005, and into 2008. Frankly, the study of police officers offers the best available opportunity for separating symbolic representation from active representation. Datasets that track, for example, minority student performance in the classroom of a minority teacher, confound active and passive pedagogical effect. Police traffic stops are studied by many people because of the implications for criminal justice policymaking, so therefore abundant data exists allowing for exploration of this theory of bureaucracy. This highlights the value in political scientists

examining criminal justice datasets for implications that reach beyond the policy sub domain, as well as the opportunity for the application of accepted public policy theory to criminal justice issues.

The final chapter of this work focuses on incarceration, but rather than making a statement about the efficacy of American incarceration rates or methods in reducing crime, it finds that private prison construction is not an economic boom to communities. By way of background, it was brought up in chapter three that many local elected officials see prison construction as a way to grow an economy. Particularly in a challenging economic environment, the pressure for elected officials to raise family incomes and lower unemployment is immense. Private prison companies have emerged in the last few decades as an option for cash strapped subnational governments to do something, anything, to create work environments. The backdrop to this chapter's economic study is controversial. While not as recently salient as private contractors such as Xe conducting the war in the Middle East, private prison companies are treading on territory that has been traditionally carried out by public bureaucracies. Consequently, rhetoric over economic change can blend with rhetoric concerning the proper scope of government activity.

An economic impact study of private prisons is worthwhile to policymakers because it can serve as a basic analytical tool to predict how a prison might change the local economy. On one side of their decision-making will be a well oiled private prison company providing evidence of their economic prowess. Simply put, there is not such a well organized group on the con side of the private prison building question. In fact, while there is a large lobby of anti-prison advocacy groups of debatable power, they most often do not touch on economic arguments.

Perhaps the groups with the loudest voices making economic statements against private prison construction are the prison guard unions.<sup>124</sup>

The contribution made by this chapter however, is broader than this single policy area. First, the exploration of privatization on economic terms is valuable because it offers up the objective view of social scientists to officials. A study such as this one can be done on any area of government that is being reworked by a private business. For example, just how much cheaper is private logistics or food service for the military? While there has been much controversy over empowering private soldiers in a war zone, is it indeed cheaper? That part of the debate is often taken for granted. Additionally, the methodology of this chapter models how an author constructed dataset, as opposed to the DOJ one used in chapter two, can be shaped to answer a substantive policy question. Using a random sample of public prisons, this chapter was able to move beyond a simple dual comparison of counties with private prisons and counties with no prisons, to a more logical comparative analysis that included counties with existing public prisons. In that way the difference between public and private facilities could be explored.

To conclude, crime is a complex social phenomenon, and policy dealing with it is not simple fare. While ultimately crime is an aggregation of individual illegal acts, it remains heavily shaped by the external environment. Though the motives behind illicit acts give crime much of its veil of mystery, the coupling of questionably rational actors with environmental complexity accounts for crime's confounding nature. History has proven that there will always be crime and it will always exhibit variance. It is stubbornly persistent and maddeningly pervasive, yet highly varied in both intensity and form. Studying it, and government's response

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<sup>124</sup> The California Correctional Peace Officers Union (CCPOA) has been the most vocal.

to it, is at least as challenging as the study of any other complex policy area such as environmental pollution and social welfare.

Murder will always be the intentional killing of another human being with malice aforethought and likewise robbery will always be taking someone's property by force or fear. And even more basically, as long as human nature remains flawed, the crimes of murder and robbery will forever exist. However, the face of killing and stealing reveal themselves quite differently in the hills of South Dakota and in the urban core of Manhattan. The variance in the incidence rate of criminal acts is not attributable to something mysterious found in the water of the Black Hills or in the center of the Bronx, though crime's malleability sometimes has this appear to be the case. Crime rates vary depending upon the environment, but identifying the particular causal drivers in the environment that provide its shape is one of the thorniest questions in modern social science. In the same way, the complex public institutions that respond to crime can be challenging to analyze. And in some instances, these public institutions even morph into the private.

In the subfield of criminal justice policy data gathering is a challenge because of the duration of time that must be explored, crimes multi-jurisdictional nature, its multi-faceted causal stories, and the many policy domains involved in responses to it. However, there is valuable data publicly available that is sufficiently accurate and systematically gathered. Likewise, there are qualitative and quantitative data analysis techniques that, like peeling an onion away layer by layer, allow for the dissolution of the shroud of mystery surrounding crime management and prevention.



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## Appendix I

Capital Offenses Among Former Juvenile Death Penalty States	
Alabama	Intentional murder with 1 of 8 aggravating factors
Arkansas	Capital murder with 1 of 9 aggravating circumstances
Arizona	1st degree murder accompanied by 1 of 10 aggravating factors
Delaware	1st degree murder with certain aggravating circumstances
Florida	1st degree murder, felony murder, capital drug-trafficking
Georgia	Murder, kidnapping with bodily injury or ransom where victim dies, aircraft hijacking, treason
Idaho	1st degree murder, aggravated kidnapping
Kentucky	Murder with aggravating factors, kidnapping with aggravating factors
Louisiana	1st degree murder, aggravated rape of victim under age 12, treason
Mississippi	Capital murder, aircraft piracy
Nevada	1st degree murder, with 10 possible aggravating circumstances
New Hampshire	Capital murder
North Carolina	1st degree murder
Oklahoma	1st degree murder with at least 1 of 9 aggravating circumstances as defined by statute
Pennsylvania	1st degree murder with 1 of 17 aggravating circumstances
South Carolina	1st degree murder with 1 of 10 aggravating circumstances
Texas	Criminal homicide with 1 of 8 aggravating circumstances
Utah	Aggravated murder, aggravated assault by a prisoner serving a life sentence if serious bodily injury is intentionally caused
Virginia	1st degree murder with 1 of 9 aggravating circumstances

## Appendix II

### Survey Questions and Descriptive Statistics: The Police-Public Contact Survey (U.S. Department of Justice, 2002)

#### Dependent Variable

Would you say that the police officer(s) had a legitimate reason for stopping you?

0	No	15.92%	(862)
1	Yes	84.98%	(4551)

#### Independent Variables

##### Respondent Race

0	Other Race	90.45%	(4896)
1	Black	9.55%	(517)

##### Respondent Gender

0	Female	41.81%	(2263)
1	Male	58.19%	(3150)

##### Respondent Age

Mean: 38.13                      Min: 16                      Max: 90

##### Popsize: Size of jurisdiction where respondent reported living.

1	Under 100,000	77.52%	(4196)
2	100,000-499,999	14.34%	(776)
3	500,000-999,999	3.90%	(211)
4	1 million or more	4.25%	(230)

##### Work: Did the respondent have a job or work at a business last week?

0	No	20.47%	(1099)
1	Yes	79.98%	(4271)

##### Income Under \$20,000

0	No	72.22%	(3909)
1	Yes	27.78%	(1504)

Income over \$50,000

0	No	57.51%	(3113)
1	Yes	42.49%	(2300)

How many face-to-face contacts with a police officer did you have during the last 12 months?

1	75.85%	(4106)
2	15.5%	(839)
3	5.1%	(276)
4	1.74%	(94)
5	.83%	(45)
6	.42%	(23)
7	.13%	(7)
8	.09%	(5)
9	.02%	(1)
10	.13%	(7)
12	.11%	(6)
20	.02%	(1)
21	.02%	(1)
30	.04%	(2)

Officer race: Was/were the police officer(s) (mostly) black?

0	No	91.13%	(4933)
1	Yes	8.87%	(480)

Interaction: Driver Black, Officer Black

0	No	98.06%	(5308)
1	Yes	1.94%	(105)

Did the police officer(s) find any of the following items during (this search/these searches)? (yes for any of the following: illegal weapons, illegal drugs, open containers of alcohol, such as beer or liquor, or other evidence of a crime)

0	No	99.5%	(5386)
1	Yes	.5%	(27)

During (this/the most recent) incident, were you: given a ticket?

0	No	39.48%	(2137)
1	Yes	60.52%	(3276)

### Appendix III

#### Survey Questions and Descriptive Statistics: The Police-Public Contact Survey (U.S. Department of Justice, 2005)

##### Dependent Variables

Would you say that the police officer(s) had a legitimate reason for stopping you?

0	No	16.26%	(729)
1	Yes	83.74%	(3755)

During this contact do you feel that a majority of the police officer(s) were respectful?

0	No	10.65%	(536)
1	Yes	89.35%	(4499)

Looking back on this contact, do you feel the police behaved properly or improperly?

0	No	11.01%	(554)
1	Yes	88.99%	(10565)

Do you feel that a majority of the police officer(s) were professional?

0	No	10.14%	(511)
1	Yes	89.86%	(4527)

##### Independent Variables

(Figures listed here are for all PPCS respondents who indicated having been involved in a traffic stop)

##### Respondent Race

0	Other Race	91.04%	(4604)
1	Black	8.96%	(453)

##### Respondent Gender

0	Female	43.17%	(2183)
1	Male	56.83%	(2874)

##### Respondent Age

Mean: 38.98      Min: 16      Max: 89

Popsiz: Size of jurisdiction where respondent reported living.

1	Under 100,000	75.26%	(3806)
2	100,000-499,999	15.09%	(763)
3	500,000-999,999	5.28%	(267)
4	1 million or more	4.37%	(221)

Work: Did the respondent have a job or work at a business last week?

0	No	21.00%	(1051)
1	Yes	79.00%	(3954)

Income Under \$20,000

0	No	71.50%	(3616)
1	Yes	28.50%	(1441)

Income Over \$50,000

0	No	53.04%	(2682)
1	Yes	46.96%	(2375)

How many face-to-face contacts with a police officer did you have during the last 12 months?

1	75.89%	(3838)
2	15.88%	(803)
3	4.65%	(235)
4	1.72%	(87)
5	.67%	(34)
6	.38%	(19)
7	.16%	(8)
8	.16%	(8)
9	.04%	(2)
10	.16%	(8)
11	.04%	(2)
12	.08%	(4)
13	.04%	(2)
15	.04%	(2)
20	.06%	(3)
24	.02%	(1)
30	.02%	(1)

Officer race: Was/were the police officer(s) (mostly) black?

0	No	93.43%	(3657)
1	Yes	6.57%	(257)

Interaction: Driver Black, Officer Black

0	No	98.62%	(4987)
1	Yes	1.38%	(70)

Did the police officer(s) find any of the following items during (this search/these searches)? (yes for any of the following: illegal weapons, illegal drugs, open containers of alcohol, such as beer or liquor, or other evidence of a crime)

0	No	98.62%	(4987)
1	Yes	1.38%	(70)

During (this/the most recent) incident were you: given a ticket?

0	No	40.90%	(1875)
1	Yes	59.10%	(2709)



## Appendix IV

### States and Federal Agency Contracting for Correctional Institutions, 2002

<b>Jurisdiction</b>	<b>Number of Private Facilities</b>
Alaska	11
Arizona	4
California	9
Colorado	4
Florida	5
Georgia	4
Hawaii	4
Idaho	1
Indiana	2
Kansas	2
Kentucky	2
Louisiana	2
Michigan	1
Mississippi	5
Montana	1
Nevada	1
New Mexico	4
North Carolina	2
North Dakota	1
Ohio	2
Oklahoma	6
Tennessee	2
Texas	22
Virginia	1
Washington	
D.C.	3
Wisconsin	3
Wyoming	9
FBOP	5
<b>Total</b>	<b>118</b>

Source: 2002 Corrections Yearbook, Camille Graham Camp, ed. California data is from 2001.

## Appendix V

### Sample

County	State	Prison Name	Contractor
Barbour	AL	Easterling Correctional Facility	public
Cullman	AL	n/a	n/a
Jackson	AL	n/a	n/a
Madison	AL	William E. Donaldson Correctional Fac.	public
Pickens	AL	n/a	n/a
Sumter	AL	n/a	n/a
Izard	AR	North Central Unit	public
Logan	AR	n/a	n/a
Apache	AZ	n/a	n/a
Maricopa	AZ	Phoenix West	GEO Group
Mohave	AZ	Kingman	MTC
Pinal	AZ	Eloy Detention Center	CCA
Amador	CA	Mule Creek State Prison	public
Del Norte	CA	Pelican Bay State Prison	public
Imperial	CA	California State Prison - Solano	public
Kern	CA	Taft Correctional Institute	CCA
Lassen	CA	High Desert State Prison	public
Madera	CA	Valley State Prison for Women	public
Riverside	CA	Chuckawalla Valley State Prison	public
Santa Barbara	CA	n/a	n/a
Solano	CA	California State Prison - Solano	public
Bent	CO	Bent County Correctional Facility	CCA
Chaffee	CO	n/a	n/a
Crowley	CO	Crowley County Correctional Center	CCA
El Paso	CO	Cheyenne Mountain Re-Entry Center	CEC
Huerfano	CO	Huerfano County Correctional Center	CCA
Kit Carson	CO	Kit Carson Correctional Center	CCA
Montezuma	CO	n/a	n/a
Montrose	CO	n/a	n/a
Morgan	CO	Brush Women's Facility	GRW
Sussex	DE	n/a	n/a
Broward	FL	Thompson Academy Choices	JFS Development LLC
Gadsden	FL	Bristol Youth Academy	Keystone Educ. & Youth

			Services
Hardee	FL	Hardee Correctional Institution	public
Hernando	FL	Eckerd Challenge Program	Eckerd Youth Alternatives
Highlands	FL	Avon Park Youth Academy	G4S Youth Services
Highlands	FL	Avon Park Youth Academy	G4S Youth Services
Hillsborough	FL	Riverside Academy	Riverside Youth Services
Jefferson	FL	Jefferson Correctional Institution	public
Manatee	FL	Manatee Regional Detention Center	public
Marion	FL	Marion Youth Development Center	JFS Development LLC
Martin	FL	Martin Correctional Institution	public
Okaloosa	FL	Okaloosa Youth Academy	Premier Behavioral Solutions, Inc.
Okeechobee	FL	Eckerd Youth Development Center	Eckerd Youth Alternatives
Palm Beach	FL	Palm Beach Juvenile Correctional Facility	JFS Development LLC
Polk	FL	Polk Juvenile Correctional Facility	G4S Youth Services
Santa Rosa	FL	Milton Girls Residential Facility	Premier Behavioral Solutions, Inc.
St. Johns	FL	Hastings Moderate Risk/High Risk	G4S Youth Services
Taylor	FL	Taylor Correctional Institution	public
Volusia	FL	Pines Juvenile Residential Facility	Stewart Marchman
Brooks	GA	n/a	n/a
Bryan	GA	n/a	n/a
Calhoun	GA	Calhoun State Prison	public
Carroll	GA	n/a	n/a
Charlton	GA	D. Ray James Prison	Cornell
Coffee	GA	Coffee Correctional Facility	CCA
Colquitt	GA	n/a	n/a
Crisp	GA	Crisp Regional Youth Detention Center	JFS Development LLC
DeKalb	GA	Metro Regional Youth Detention Center	public
Johnson	GA	Johnson State Prison	public
McIntosh	GA	McIntosh Youth Development Campus	JFS Development LLC
Paulding	GA	Paulding Regional Youth Detention Center	JFS Development LLC
Stewart	GA	Stewart County Detention Center	CCA
Telfair	GA	McRae Correctional Facility	CCA
Webster	GA	n/a	n/a

Wheeler	GA	Wheeler Correctional Facility	CCA
Des Moines	IA	n/a	n/a
Howard	IA	n/a	n/a
Muscatine	IA	n/a	n/a
Webster	IA	Ft. Dodge Correctional Facility	public
Ada	ID	Idaho Correctional Center	CCA
Bannock	ID	Pocatello Women's Correctional Center	public
Nez Perce	ID	n/a	n/a
Crawford	IL	Robinson Correctional Center	public
Fayette	IL	Vandalia Work Camp	public
Macon	IL	Decatur Correctional Center	public
Mercer	IL	n/a	n/a
Brown	IN	n/a	n/a
Cass	IN	North Central Juvenile Correctional Facility	public
Henry	IN	New Castle Correctional Facility	GEO Group
Kosciusko	IN	n/a	n/a
Madison	IN	Correctional Industrial Facility	public
Miami	IN	Miami Correctional Facility	public
Morgan	IN	n/a	n/a
Porter	IN	n/a	n/a
St.Joseph	IN	n/a	n/a
Douglas	KS	n/a	n/a
Kearny	KS	n/a	n/a
Labette	KS	Labette Women's Correctional Camp	GRW
Leavenworth	KS	Leavenworth Detention Center	CCA
Stanton	KS	n/a	n/a
Thomas	KS	n/a	n/a
Floyd	KY	Otter Creek Correctional Center	CCA
Johnson	KY	n/a	n/a
Larue	KY	n/a	n/a
Lee	KY	Lee Adjustment Center	CCA
Marion	KY	Marion Adjustment Center	CCA
Mercer	KY	n/a	n/a
Taylor	KY	n/a	n/a
Allen	LA	Allen Correctional Center	GEO Group
Caddo	LA	n/a	n/a
Concordia	LA	n/a	n/a

Lincoln	LA	n/a	n/a
St. Bernard	LA	n/a	n/a
Tensas	LA	Tensas Parish Detention Center	LCS
Winn	LA	Winn Correctional Center	CCA
Suffolk	MA	n/a	n/a
Allegany	MD	Western Correctional Institution	public
Baltimore City	MD	Baltimore City Correctional Center	public
Garrett	MD	n/a	n/a
Wicomico	MD	n/a	n/a
Hancock	ME	n/a	n/a
Alger	MI	Alger Maximum Correctional Facility	public
Arenac	MI	Standish Maximum Correctional Facility	public
Baraga	MI	Baraga Maximum Correctional Facility	public
Gratiot	MI	St. Louis Correctional Facility	public
Ionia	MI	Bellamy Creek Correctional Facility	public
Iron	MI	n/a	n/a
Lake	MI	Michigan Youth Correctional Facility	GEO Group
Macomb	MI	Macomb Correctional Facility	public
Montmorency	MI	n/a	n/a
Newaygo	MI	n/a	n/a
Lake of the Woods	MN	n/a	n/a
Norman	MN	n/a	n/a
Swift	MN	Prairie Correctional Facility	CCA
Buchanan	MO	Western Reception, Diagnostic, and Cor. Ctr.	public
Clinton	MO	Western Missouri Correctional Center	public
Gentry	MO	n/a	n/a
Greene	MO	n/a	n/a
Johnson	MO	Integrity Correctional Centers	ICC Management
Marion	MO	n/a	n/a
Mississippi	MO	Southeast Correctional Center	public
Moniteau	MO	Tipton Correctional Center	public
Pettis	MO	n/a	n/a
Amite	MS	n/a	n/a
Grenada	MS	n/a	n/a
Jefferson	MS	Jefferson/Franklin County Reg Cor.	public

		Fac.	
Lauderdale	MS	East Mississippi Correctional Facility	GEO Group
Leake	MS	Walnut Grove Youth Correctional Facility	Cornell Companies
Leflore	MS	Delta Correctional Facility	CCA
Lincoln	MS	n/a	n/a
Marshall	MS	Marshall County Correctional Facility	GEO Group
Panola	MS	n/a	n/a
Rankin	MS	Central Mississippi Correctional Facility	public
Simpson	MS	n/a	n/a
Stone	MS	Stone County Regional Correctional Fac.	public
Tallahatchie	MS	Tallahatchie County Correctional Facility	CCA
Tunica	MS	n/a	n/a
Wilkinson	MS	Wilkinson Country Correctional Facility	CCA
Blaine	MT	n/a	n/a
Chouteau	MT	n/a	n/a
Toole	MT	Crossroads Correctional Facility	CCA
Hertford	NC	Rivers Correctional Institution	GEO Group
Onslow	NC	n/a	n/a
Randolph	NC	n/a	n/a
Wilkes	NC	n/a	n/a
Kidder	ND	n/a	n/a
Nelson	ND	n/a	n/a
Rolette	ND	n/a	n/a
Sioux	ND	n/a	n/a
Douglas	NE	Omaha Correctional Center	public
Valley	NE	n/a	n/a
Coos	NH	Northern New Hampshire Correctional Fac.	public
Monmouth	NJ	n/a	n/a
Morris	NJ	n/a	n/a
Union	NJ	Elizabeth Detention Center	CCA
Bernalillo	NM	Camino Nuevo Correctional Facility	CCA
Cibola	NM	New Mexico Women's Correctional Facility	CCA

Guadalupe	NM	Guadalupe County Correctional Facility	GEO Group
Harding	NM	n/a	n/a
Lea	NM	Lea County Correctional Facility	GEO Group
Sante Fe	NM	Sante Fe County Adult Detention Center	Cornell Companies
Torrance	NM	Torrance County Detention Center	CCA
Humboldt	NV	n/a	n/a
Cattaraugus	NY	Gowanda NY	public
Cayuga	NY	Cayuga Correctional Facility	public
Chautauqua	NY	Lakeview Shock Incarceration Cor. Facility	public
Chenango	NY	n/a	n/a
Essex	NY	Moriah Shock Incarceration Cor. Facility	public
Franklin	NY	Franklin Correctional Facility	public
Fulton	NY	Hale Creek Alcohol/Substance Abuse Center	public
Greene	NY	Greene Correctional Facility	public
Jefferson	NY	Cape Vincent Correctional Facility	public
Livingston	NY	Livingston Correctional Facility	public
Orleans	NY	Orleans Correctional Facility	public
Queens	NY	Queens Private Correctional Facility	GEO Group
Seneca	NY	Five Points Correctional Facility	public
St. Lawrence	NY	Gouverneur Correctional Facility	public
Tioga	NY	n/a	n/a
Ulster	NY	Shawangunk Correctional Facility	public
Washington	NY	Washington Correctional Facility	public
Wayne	NY	Butler Correctional Facility	public
Allen	OH	Allen Correctional Institution	public
Ashtabula	OH	Lake Erie Correctional Institution	Mgt. & Training Corp.
Geauga	OH	Lighthouse Youth Center	Lighthouse Youth Services
Jefferson	OH	n/a	n/a
Lawrence	OH	n/a	n/a
Lucas	OH	Toledo Correctional Facility	public
Mahoning	OH	Northeast Ohio Correctional Facility	CCA
Pickaway	OH	Pickaway Correctional Institution	public
Richland	OH	Richland Correctional Institution	public
Trumbull	OH	Trumbull Correctional Institution	public



Beckham	OK	North Fork Correctional Facility	CCA
Blaine	OK	Diamondback Correctional Facility	CCA
Caddo	OK	Great Plains Correctional Facility	Cornell Companies
Carter	OK	n/a	n/a
Comanche	OK	Lawton Correctional Facility	GEO Group
Craig	OK	Northeast Oklahoma Correctional Center	public
Hughes	OK	Davis Correctional Facility	CCA
McClain	OK	n/a	n/a
Nowata	OK	n/a	n/a
Payne	OK	Cimarron Correctional Facility	CCA
Pittsburg	OK	Jackie Brannon Correctional Center	public
Woods	OK	Charles E. "Bill" Johnson Correctional Center	public
Clackamas	OR	Coffee Creek Correctional Facility	public
Gilliam	OR	n/a	n/a
Josephine	OR	Rogue Valley Youth Correctional Facility	public
Lake	OR	Warner Creek Correctional Facility	public
Union	OR	n/a	n/a
Wasco	OR	n/a	n/a
Cambria	PA	Cresson State Correctional Institution	public
Centre	PA	Moshannon Valley Correctional Complex	BOP
Columbia	PA	n/a	n/a
Crawford	PA	Cambridge Springs State Cor. Institution	public
Forest	PA	Forest State Correctional Institution	public
Franklin	PA	South Mountain Secure Treatment Unit	public
Luzerne	PA	Retreat State Correctional Institution	public
Jasper	SC	Ridgeland Correctional Institution	public
Lancaster	SC	n/a	n/a
McCormick	SC	McCormick Correctional Institution	public
Sanborn	SD	n/a	n/a
Chester	TN	n/a	n/a
Greene	TN	n/a	n/a
Hamilton	TN	Silverdale Detention Facilities	public
Hardeman	TN	Hardeman County Correctional Center	CCA

Monroe	TN	n/a	n/a
Tipton	TN	West Tennessee Detention Facility	CCA
Unicoi	TN	n/a	n/a
Wayne	TN	South Central Correctional Facility	CCA
Anderson	TX	Michael Unit	public
Angelina	TX	Diboll Correctional Center	CCA
Bexar	TX	Dominguez State Jail	public
Bowie	TX	Telford Unit	public
Brooks	TX	Brooks County Detention Center	LCS
Brown	TX	Havins Unit	public
Burnet	TX	Halbert Unit	public
Caldwell	TX	Lockhart Work Program Facility (women)	GEO Group
Cherokee	TX	Hodge Unit	public
Cochran	TX	n/a	n/a
Coke	TX	Coke County Juvenile Justice Center	GEO Group
Concho	TX	Eden Detention Center	CCA
Coryell	TX	Hughes Unit	public
Cottle	TX	n/a	n/a
Crockett	TX	n/a	n/a
Dallam	TX	Dalhart Unit	public
Dallas	TX	Hutchins State Jail	public
Dawson	TX	Smith Unit	public
Dickens	TX	Dickens County Correctional Center	GEO Group
Ector	TX	Ector County Detention Center	Civigenics
Edwards	TX	n/a	n/a
El Paso	TX	Sanchez State Jail	public
Elis	TX	Sanders Estes Unit	CCA
Falls	TX	Hobby Unit	public
Freestone	TX	Boyd Unit	public
Frio	TX	Briscoe Unit	public
Garza	TX	Giles W. Dalby Correctional Facility	Management & Training Corp.
Glasscock	TX	n/a	n/a
Hale	TX	Formby State Jail	public
Harris	TX	Houston Processing Center	CCA
Harrison	TX	n/a	n/a
Haskell	TX	Rolling Plains Regional Jail & Det. Center	Emerald Companies

Hays	TX	Kyle Correctional Center	Management & Training Corp.
Hidalgo	TX	Lopez/Segovia Unit	public
Howard	TX	Big Spring Correctional Center	BOP
Hudspeth	TX	West Texas Detention Facility	Emerald Companies
Irion	TX	n/a	n/a
Jack	TX	Lindsey State Jail (John R. Lindsey)	CCA
Jasper	TX	Goodman Unit	public
Jefferson	TX	Stiles Unit	public
Jim Wells	TX	n/a	n/a
Jones	TX	Robertson Unit	public
Karnes	TX	Connally Unit	public
Kinney	TX	n/a	n/a
LaSalle	TX	Cotulla Unit	public
Liberty	TX	Cleveland Correctional Center	GEO Group
Limestone	TX	Limestone County Detention Center	Civigenics
Medina	TX	Torres Unit	public
Newton	TX	Newton County Correctional Center	GEO Group
Nueces	TX	Nueces County Jail	LCS
Palo Pinto	TX	Mineral Wells Pre-Parole Transfer Facility	CCA
Pecos	TX	Lynaugh Unit	public
Polk	TX	IAH Polk County Detention Center	Civigenics
Reeves	TX	Reeves County Detention Center	GEO Group
Roberts	TX	n/a	n/a
Rusk	TX	Bradshaw State Jail	CCA
Stephens	TX	Sayle Unit	public
Terry	TX	Brownfield Intermediate Sanction Facility	MTC
Travis	TX	Travis County State Jail	public
Val Verde	TX	Val Verde County Jail & Correctional Facility	GEO Group
Walker	TX	Estelle Unit	public
Webb	TX	Laredo Contract Detention Center	CCA
Wheeler	TX	n/a	n/a
Wichita	TX	Allred Unit	public
Willacy	TX	Willacy County State Jail	CCA
Williamson	TX	Bartlett State Jail	CCA
Wise	TX	Bridgeport Correctional Center	GEO Group

Salt Lake	UT	Salt Lake Valley Detention Center	Cornell Companies
Sanpete	UT	Central Utah Correctional Facility	public
Utah	UT	Promontory Correctional Institution	Management & Training Corp.
Bland	VA	n/a	n/a
Brunswick	VA	Lawrenceville Correctional Center	GEO Group
Lee	VA	n/a	n/a
Roanoke	VA	n/a	n/a
Spotsylvania	VA	n/a	n/a
Clallam	WA	Clallam Bay Corrections Center	public
Franklin	WA	Coyote Ridge Corrections Center	public
Jefferson	WA	n/a	n/a
King	WA	INS Seattle Detention Center	GEO Group
Kitsap	WA	n/a	n/a
Okanogan	WA	n/a	n/a
Pierce	WA	Northwest Detention Center	GEO Group
Whatcom	WA	n/a	n/a
Columbia	WI	Columbia Correctional Institution	public

## Appendix VI

### Firms Jurisdictions Contract With, 2002

<b>Alaska</b>	<b>Mississippi</b>
Cornell Corrections, Inc.	CCA
CCA	<b>Montana</b>
Gastineau Human Services	CCA
TJM	<b>Nevada</b>
North Slope Borough	CCA
<b>Arizona</b>	<b>New Mexico</b>
Correctional Services Corp.	CCA
Management and Training Corp.	<b>North Carolina</b>
<b>California</b>	Evergreen Center
Alternative Programs, Inc.	Mary Frances Center
Cornell Corrections, Inc.	<b>North Dakota</b>
Management and Training Corp.	CCA
Maranatha Production Company	<b>Ohio</b>
Wackenhut, Inc.	CiviGenics, Inc.
<b>Colorado</b>	Management and Training Corp.
CCA	<b>Oklahoma</b>
Dominion	CCA
<b>Florida</b>	<b>Tennessee</b>
CCA	CCA
Wackenhut, Inc.	<b>Texas</b>
<b>Georgia</b>	Bowie Co.
Cornell Corrections, Inc.	CiviGenics, Inc.
CCA	Comanche Co.
Bobby Ross Group	CCA
<b>Hawaii</b>	Correctional Services Corp.
CCA	Management and Training Corp.
Dominion	Titus County
<b>Idaho</b>	Wackenhut, Inc.
CCA	<b>Virginia</b>
<b>Indiana</b>	CCA
CCA	<b>Wisconsin</b>
<b>Kansas</b>	CCA
GRW, Inc.	<b>Wyoming</b>
<b>Kentucky</b>	CCA
CCA	Dominion

<b>Louisiana</b> CCA Wackenhut, Inc. <b>Michigan</b>  Wackenhut, Inc.	Reckson Strategies Venture Volunteers of America <b>FBOP</b> Cornell Corrections, Inc. Corrections Corporation of America Management and Training Corp. Wackenhut, Inc.
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Source: 2002 Corrections Yearbook, Camille Graham Camp, ed. California data is from 2001.

**Appendix VII**

**Contracting Firms, 2002**

<b>Company</b>	<b>Facilities</b>
Alternative Programs Inc.	1
Bobby Ross	1
Bowie Company	1
Civigenics	2
Comanche Company	1
Cornell Corrections (see source note)	14
Correctional Service Corporation	5
Corrections Corporation of America	44
David Green	1
Dominion	6
EFEC	1
Extended House	1
Gastineau Corporation	1
GRW Corporation	1
Hope Village	1
Management and Training Corporation	9
Maranatha Production Company	1
North Slope Borough	1
Patricia Snyder	1
Reynolds & Associates	1
Titus	1
TJM	1
Wackenhut	22
<b>Total</b>	<b>118</b>

Source: Source: 2002 Corrections Yearbook, Camille Graham Camp, ed. California data is from 2001. The Yearbook does not list Cornell Corrections as running the Walnut Grove Youth Correctional Facility, though they have operated it since March of 2001 (Camp 2003, 110; Cornell).

## Appendix VIII

### Corrections Corporation of America Facilities, 2005

<b>Prison Name</b>	<b>State</b>
B.M. Moore Correctional Facility	Texas
Bartlett State Jail	Texas
Bay Correctional Facility	Florida
Bay County Jail	Florida
Bay County Jail Annex	Florida
Bent County Correctional Facility	Colorado
Bradshaw State Jail	Texas
Bridgeport Pre-Parole Transfer Facility	Texas
California City Correctional Center	California
Central Arizona Detention Center	Arizona
Cibola County Correctional Center	New Mexico
Cimarron Correctional Facility	Oklahoma
Citrus County Detention Facility	Florida
Coffee Correctional Facility	Georgia
Correctional Treatment Facility	Washington D.C.
Crossroads Correctional Facility	Montana
Crowley County Correctional Facility	Colorado
David L. Moss Criminal Justice Center	Oklahoma
Davis Correctional Facility	Oklahoma
Dawson State Jail	Texas
Delta Correctional Facility	Mississippi
Diamondback Correctional Facility	Oklahoma
Diboll Correctional Center	Texas
Eden Detention Center	Texas
Elizabeth Detention Center	New Jersey
Eloy Detention Center	Arizona
Florence Correctional Center )	Arizona
Gadsden Correctional Facility	Florida
Hardeman County Correctional	Tennessee



Center	
Hernando County Jail	Florida
Houston Processing Center	Texas
Huerfano County Correctional Center	Colorado
Idaho Correctional Center	Idaho
Kit Carson Correctional Center	Colorado
Lake City Correctional Facility	Florida
Laredo Processing Center	Texas
Leavenworth Detention Center	Kansas
Lee Adjustment Center	Kentucky
Liberty County Jail	Texas
Lindsey State Jail	Texas
Marion Adjustment Center	Kentucky
Marion County Jail II	Indiana
McRae Correctional Facility	Georgia
Metro-Davidson County Detention Facility	Tennessee
Mineral Wells Pre-Parole Transfer Facility	Texas
New Mexico Women's Correctional Facility	New Mexico
North Fork Correctional Facility	Oklahoma
Northeast Ohio Correctional Center	Ohio
Otter Creek Correctional Center	Kentucky
Prairie Correctional Facility	Minnesota
San Diego Correctional Facility	California
Shelby Training Center	Tennessee
Silverdale Detention Facilities	Tennessee
South Central Correctional Center	Tennessee
T. Don Hutto Correctional Center	Texas
Tallahatchie County Correctional Facility	Mississippi
Torrance County Detention Facility	New Mexico
Webb County Detention Center)	Texas
West Tennessee Detention Facility	Tennessee
Wheeler Correctional Facility	Georgia
Whiteville Correctional Facility	Tennessee
Wilkinson County Correctional	Mississippi

Facility	
Willacy County State Jail	Texas
Winn Correctional Center	Louisiana

Source: CCA website (April 27, 2005). Note that the CCA headquarters is listed as a facility on their “CCA Facility Locations” list, but is not included in this study. The Stewart Correctional Facility in Lumpkin, Georgia is also included on their website’s facility list, but it is not included in the study because it now sits empty after a dispute with the state over cost. The Mineral Wells Pre-Parole Transfer Facility is included in the empirical analysis.

## **Appendix IX**

### **Counties in Sample with Multiple Prisons**

For the models' samples the total number of prisoners was added together, and the oldest facility and year used.

#### **Pinal (AZ):**

Eloy Detention Center (in sample; 3400)

Marana Community Correctional Treatment Facility (500)

Florence West (750)

Central Arizona Correctional Facility (1000)

Red Rock Correctional Center (1596)

Florence Correctional Center (1824)

Central Arizona Detention Center (2304)

#### **Kern (CA)**

California City Correctional Center (in sample; 2650)

Taft Correctional Institute – California (2048)

#### **Hillsborough (FL)**

Riverside Academy (165)

Columbus Juvenile Residential Facility (in sample; 50)

#### **Okaloosa Youth Academy (FL)**

Okaloosa Youth Academy (in sample; 100)

Gulf Coast Youth Academy (104)

#### **Tensas (LA)**

Tensas Parish Detention Center (in sample; 440)

Tensas Parish Detention Center (512)

#### **Cibola (NM)**

New Mexico Women's Correctional Facility (in sample; 596)

Cibola County Corrections Center (1614)

#### **Sante Fe (NM)**

Sante Fe County Juvenile Detention Center (129)

Sante Fe County Adult Detention Center (in sample; 672)

Lorain (OH)

Grafton Correctional Institution and Camp (2190)

North Coast Correctional Treatment Center (635)

Cambria (PA)

Cresson State Correctional Institution (in sample; 834)

Cresson Secure Treatment Unit (52)

Hardeman (TN)

Whiteville Correctional Facility (1536)

Hardeman County Correctional Center (in sample; 2016)

Angelina (TX)

Lufkin Detention Center (300)

Diboll Correctional Center (in sample; 518)

Caldwell (TX)

Lockhart Work Program Facility Men (500)

Lockhart Work Program Facility Women (in sample; 500)

Dallas (TX)

Hutchins State Jail (in sample; 2276)

Dawson State Jail (2216)

El Paso (TX)

Sanchez State Jail (in sample; 1100)

El Paso Multi Use Facility (324)

Frio (TX)

Briscoe Unit (1342)

Frio County Detention Center (391)

South Texas Detention Center (1020)

Hidalgo (TX)

Lopez/Segovia Unit (in sample; 2564)

East Hidalgo Detention Center (954)

LaSalle (TX)

LaSalle County Regional Detention Center (548)

Cotulla Unit (in sample; 606)

Rusk (TX)

Billy Moore Correctional Center (500)

Bradshaw State Jail (in sample; 1984)

Webb (TX)

Laredo Contract Detention Center (in sample; 350)

Webb County Detention Facility (500)

Willacy (TX)

Willacy County Regional Detention Facility (540)

Willacy County State Jail (in sample; 1069)

Willacy ICE Facility (2000)

Williamson (TX)

T. Don Hutto Correctional Center (600)

Bartlett State Jail (in sample; 1001)

Wise (TX)

Bridgeport Pre-Parole Transfer Facility (200) Bridgeport Correctional Center (in sample; 520)